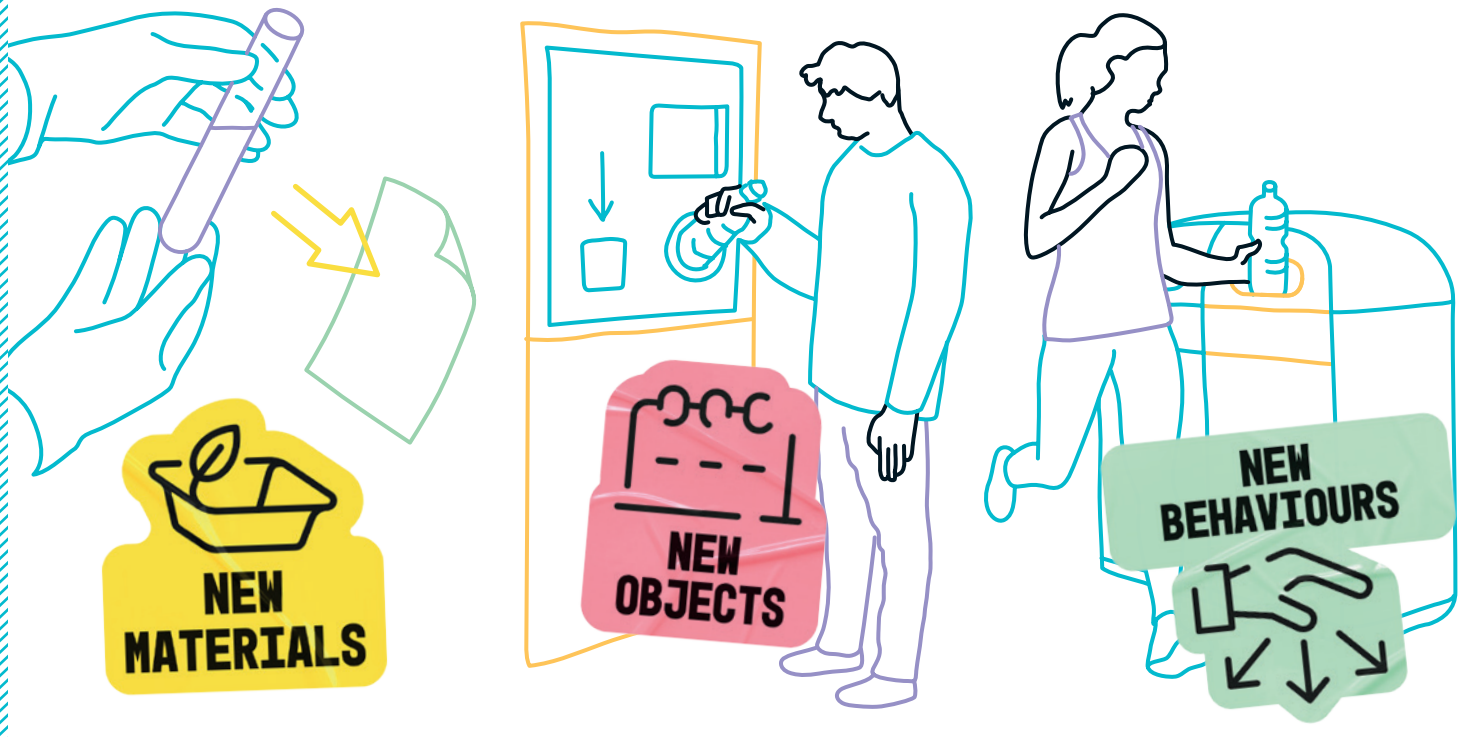
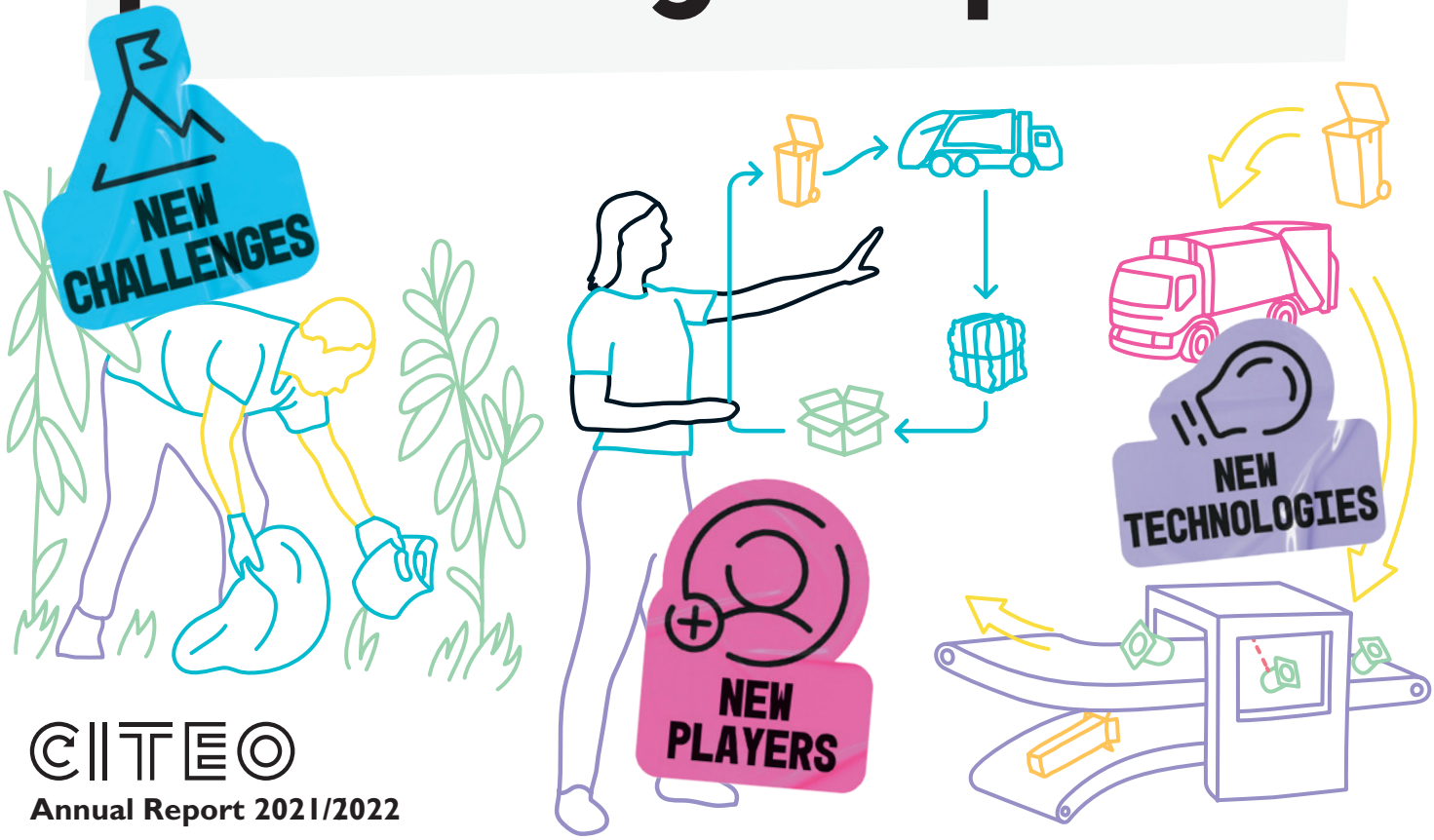
THE MORE WE KNOW, THE BETTER WE DO



Produce, distribute and consume while protecting the planet

30 years of commitment 1992 2022 to the environment



CITEO

Annual Report 2021/2022

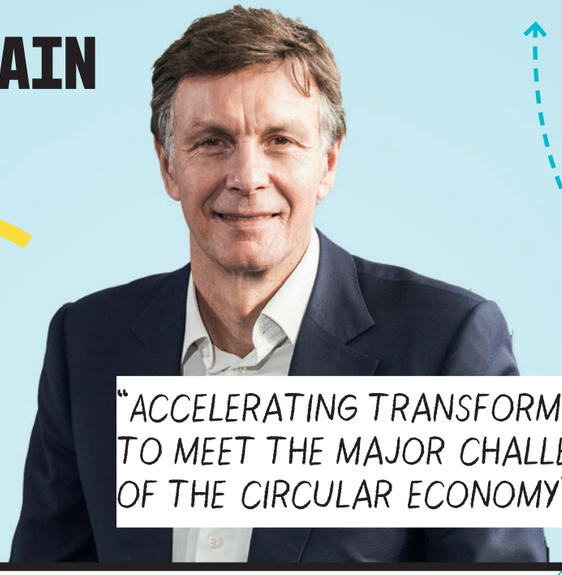
SUMMARY

Produce, distribute and consume while protecting the planet

ANTOINE FIÉVET

President of Citeo

"PLAY A STRONG ROLE IN THE RISE OF A CIRCULAR ECONOMY, THE ONLY POSSIBLE WAY TO PROTECT OUR PLANET"



JEAN HORNAIN

Managing Director of Citeo and Adelphe

"ACCELERATING TRANSFORMATIONS TO MEET THE MAJOR CHALLENGES OF THE CIRCULAR ECONOMY"

Antoine Fiévet's career: 3 key dates / moments

2009

Elected Chairman and CEO and Chairman of the Board of Directors of the Bel Group.

2015

Involved in the protection of natural resources and the fight against climate change, **Antoine Fiévet makes reduction of environmental impact one of Bel's priority commitments.**

2021

Elected President of Citeo for a four-year term, which began on July 1st, 2021.

Dear shareholders, members of the Board of Directors and Committees, dear customers and partners who work to reduce our impact on the environment,

it is with pride that I have been President of Citeo for the past year. While I have discovered more about the company's commitment and actions, I have long known the value of our model and mission.

30 years ago, pioneers in sustainable development created Citeo to reduce the environmental footprint of their packaging and paper. Among these pioneers, my predecessor Philippe-Loïc Jacob has presided over Citeo for more than 10 years and I thank him for his unwavering commitment and the great strides made.

Thanks to the mutualised action of companies and in partnership with local authorities and the recycling industry, Citeo has helped root the act of sorting in the practices of our fellow citizens and to create sustainable recycling channels that give new life to packaging and paper.

Faced with an environmental emergency, Citeo, which has become a mission-led business, must play a strong role in the rise of a circular economy, the only possible way to protect our planet.

I understand this all the more as Chairman of the Bel Group, which has been committed to the circular economy for several years. This is a necessary commitment because packaging is at the heart of our model, as it is for many companies. Today, our common interest is not only to organise collection and sorting; but to find concrete, realistic and innovative solutions to reduce, reuse and recycle, in order to limit the environmental impact of our production and consumption as much as possible and on a large scale.

I am convinced that it is this model of public-private cooperation that will enable economic players to make the transition to truly sustainable growth.

Citeo's teams work on this every day, for the common good ●

The year 2021 was marked by the continuation of the health and environmental crises. Has Citeo still been able to make progress in its missions?

J.H: Despite the difficult context, economic and industrial transformations have continued at a steady pace. The packaging recycling rate rose by 3 points to 72%, the highest rate ever, and is progressing on all materials. This is due in particular to the deployment of simplified sorting procedures and R&D advances in eco-design, as well as the collection, recycling and commitment of all players involved in developing effective solutions. In addition, we have also developed reduction and reuse.

How do you feel about the year 2022?

J.H: We have a clear roadmap, shared during the presidential election debates. The energy and expertise of our teams are focused on finding solutions and services for our clients. They trust us to accompany them in the transition of their production and distribution models towards greater sustainability for the planet.

Citeo celebrates its 30th anniversary in 2022. How do you view the work done?

J.H: We must celebrate our results which are the fruits of the will and capacity of all players to pool their efforts and act together to preserve the environment. But we still have a long way to go to reduce our environmental impact. We need to keep the pioneering spirit of the early days to innovate and face the great challenges of the circular economy.

This is the meaning of our transformation into a mission-driven company in 2020. But we don't have 30 years to get France moving and we must accelerate the transformations now!

How can we address the major environmental challenges, especially climate and biodiversity?

J.H: We are stepping up the intensity of our action: more responsibility to complete the simplification of sorting process and the creation of viable recycling channels for all plastic packaging; more services for our customers who are looking for personalised support with the arrival of Citeo+; more expertise and action to effectively fight against abandoned waste; more cooperation at the national level to make large-scale reuse a reality, and at the international level to eradicate plastic pollution, which knows no borders. And finally, more mobilisation to involve our fellow citizens in sustainable behaviour, and to systematise education in eco-citizenship.

This is an opportunity for Citeo and its highly committed teams to contribute to the challenge of the century: the preservation of the planet and the ecosystems that ensure the existence of humanity ●

Jean Hornain's year: 3 key events

SEPTEMBER 2021

Launch of Citeo's Biodiversity Roadmap at the IUCN World Conservation Congress in Marseille. "We will not save the climate without saving biodiversity."

DECEMBER 2021

Citeo's collaboration with the Match for Green association to make club sports a means of educating people about eco-citizenship.
"This partnership enables us to work with training club managers, on thinking about sorting systems outside the home, in stadiums and gymnasiums, and on engaging and raising awareness among sports players."

JANUARY 2022

Publication of Citeo's 10 proposals for the circular economy on the occasion of the presidential election. "It is essential for Citeo to participate in the public debate by sharing its vision of the circular economy."

1992-2022:
30 YEARS OF COMMITMENT

FROM THE POLLUTER-PAYS PRINCIPLE TO THE IMPORTANCE OF A COMPANY WITH A MISSION, HERE ARE A FEW DATES THAT RETRACE CITEO'S PATH.

1972

The OECD adopts the polluter-pays principle as an economic principle.

1992

ECO-EMBALLAGES

Publication on 1 April of the decree introducing Extended Producer Responsibility in France.

Companies join forces to create Eco-Emballages.

Selective collection is becoming part of people's daily lives.

2001

Recycling rate passes the 50% mark!

More than half of the packaging put on the French market is recycled.

2005

Merger with **Adelphe**, a subsidiary of Citeo.

2012

Companies are reducing packaging at the source. More than 100,000 tons avoided between 2007 and 2012 (Grenelle de l'environnement).

2013

Rise of Info-tri, on-pack labelling that gives consumers the rules for sorting packaging.

A few years later, a complementary digital service was created, the Sorting Guide app (Guide du tri).

2014

Deployment of the simplification of sorting, after three years of experimentation.

Today, nearly 2 in 3 people can sort all their packaging and paper.

2015

COP21 in Paris.

The fight against global warming and the major role of the circular economy are essential on the agenda.

2017

Eco-Emballages and Ecofolio merge to create Citeo

CITEO

2020

Citeo becomes a mission-led business

OUR PURPOSE:
To respond to the ecological emergency and accelerate the necessary transformations, Citeo wants to engage and accompany economic players to produce, distribute and consume while protecting our planet and its resources, biodiversity and climate.

Citeo's 5 objectives

OBJECTIVE #1

Reduce the environmental impact of Citeo customers' products by anchoring circular economy and eco-design in their practices and strategies.

OBJECTIVE #2

Create the conditions for building the solutions of today and tomorrow that combine environmental and economic performance.

OBJECTIVE #3

Give consumers the keys to reduce the environmental impact of their consumption.

OBJECTIVE #4

Co-construct and promote Citeo's solutions and positions, from local to international levels.

OBJECTIVE #5

Cultivate the commitment of Citeo's teams to its mission.

2021

Biodiversity, abandoned waste, reuse: Citeo is investing in new fields of action. Through studies and Calls for expression of interest (CEI), Citeo is analysing and experimenting with key topics in the circular economy and resource conservation.

2021-2022 essentials

As 2021 unfolds

More services for Citeo customers!

2021, a year rich in new services for all Citeo customers: a newcomer, the LESS tool to reduce packaging; a new version of TREE, a methodology for assessing the recyclability of packaging; the Campus Circulaire e-learning platform to increase skills in the circular economy of packaging and paper.

April 2021

Getting to know and understand the behaviour of new eco-citizens

Studies, analyses, experiments: Citeo and its expert and research partners are carrying out important work to better know and understand perceptions and practices of responsible consumption (sorting, reuse, bulk). Grouped under the banner "New eco-citizen behaviour", this expertise was shared with Citeo's clients and partners during two meetings in April 2021.

May 2021

CCC, a circular economy accelerator

Citeo has launched its "impact accelerator", entirely dedicated to the circular economy. The Citeo Circular Challenge (CCC) detects and accompanies promising projects to accelerate the transition to this new model: support investment, technical and legal, testing of innovations in situ... the range of support is broad and will extend over the long term. Composed of eight project holders, the first class of the accelerator was revealed in December 2021.

See p. 25 and 32.

September 2021

Launch of the Biodiversity roadmap

At the International Union for Conservation of Nature Congress, which brought together 160 countries and 15,000 experts in Marseille, Jean Hornain, Citeo's CEO, announced Citeo's Biodiversity Roadmap, alongside Patricia Ricard, President of its Mission Committee. During the congress, Citeo also led the reflection on the fight against abandoned waste and launched a CEI dedicated to the search for solutions and announced two partnerships: one with the Aix-Marseille-Provence metropolis and the other with Nestlé, the South region, and the "communauté de communes Lacs et Gorges du Verdon".

See p. 28.

October 2021

With ReUse, we create the reuse of tomorrow

In parallel with the work on standardising packaging, Citeo has launched the ReUse project. The goal? Modelling from an economic, operational, and environmental point of view: a national and mutualised packaging reuse program. 25 manufacturers and distributors are working with Citeo on this project.

See p. 29.

December 2021

Simpler sorting for nearly 2 in 3 people!

Significant progress in simplifying the sorting process in 2021. In one year, 8 million more people are concerned about the sorting of packaging. Sorting centres are continuing to modernise: more than half of them are now equipped with technologies that allow the separation of different types of materials and plastic resins.
Citeo also supports the improvement of collection with approximately 250 projects since 2019. 67 of them, which have already been completed, have resulted in the recycling of an additional 24,000 tons of packaging.

See pages 12, 13, 28 and 29.

December 2021

Putting sport at the top of the circular economy

In December 2021, Citeo made a commitment with the Match for Green association to reduce the ecological footprint of team sports. Launched in 2020, Match for Green aims to develop eco-citizen attitudes within sports clubs to build a new model around sustainability and circularity.

January 2022

Citeo presents its vision of the circular economy in the public debate

In light of the presidential and legislative elections, Citeo has published "10 proposals for the circular economy": an overview of the issues and recommendations that can be put in place today to accelerate the ecological transition.

February 2022

800 participants at the R&D Morning

This event, organised in person and remotely, was a great success and offered Citeo's customers, manufacturers and start-ups the opportunity to meet with the company's employees, for a progress report on innovations in eco-design, recycling and reuse. Each year, Citeo spends 10 million euros on R&D projects to reduce the environmental impact of packaging and paper.

March 2022

Solutions being tested in the fight against abandoned waste

Faced with the problem of abandoned waste, Citeo, the Association of French Mayors and the French Office of Biodiversity are supporting 18 projects as part of a €1 million CEI.
Objective: to better understand the subject and to develop effective actions against pollution in urban and natural areas.

See p. 16 and 28.

March 2022

Citeo+, offering customised advice

The transition to more sustainable modes of production, distribution and consumption is creating new needs for support, which Citeo wants to meet with Citeo+, its tailored, fee-based and independent advisory service. This service mobilises expertise to help companies develop circular solutions, particularly in the field of packaging.

New behav-iours

What if the change was us? A sustainable and circular world is a world inhabited by new behaviours, new gestures, new habits. To increase sorting, accelerate reuse or better fight against abandoned waste, the levers for action are primarily behavioural, before being technological or organisational. But changing behaviours cannot be forced! Stéphanie Foucard, Citeo's Director of Mobilisation and Commitment, discusses the importance of analysis of uses, practices and perceptions to encourage the adoption of new behaviours. ↦

"UNDERSTANDING HOW PEOPLE PERCEIVE THE ACT OF SORTING, REUSE... IT'S THE CONDITION OF THEIR ADOPTION"

Stéphanie Foucard
Citeo's Director of Mobilisation and Commitment

How do you define behaviour?

S.F: Behaviour is all of our actions and interactions with our environment, observable in a given context. The first thing to remember about our behaviours is that they are very much influenced by our social interactions and the contexts in which they occur. In this sense, the popularisation of the nature and effects of cognitive biases has made a large audience aware that our behaviours are largely beyond our control. Every day, we make thousands of decisions: to save time and energy in particular, and the brain develops strategies to accelerate the processing of information, with these strategies having an impact on our choices.

Why is Citeo interested in behaviour?

S.F: For more than 6 in 10 French people, the environmental situation is worrying and calls for radical change to produce and consume less and better*. However, we see on a daily basis, if only by observing our own behaviour, that the gap between intention and action is wide, often because the solutions to act are not accessible (lack of information, complexity, etc.). Our role is to help companies and regions create the conditions for responsible practices upstream and downstream of consumption, by informing their choices through our knowledge of consumers and behavioural levers.

It is this expertise that Citeo brings to its customers?

S.F: This is indeed part of our added value. Our corporate clients know their consumers perfectly well in terms of product purchasing behaviour. For our part, we broaden the focus by looking at the practices of responsible consumption, to the representations that people have of packaging and its uses, sorting and reuse. This is how we can advise our clients on their on and off-pack communication, on environmental claims and sorting rules, and accompany them on the mobilisation of reuse or bulk devices.

Sorting is now firmly rooted in the population. What do you remember about this success?

S.F: We must be careful, a reflex is never 100% won and we continue to work so that it becomes systematic for all. But we have come a long way and today 89% of French people sort. Regular and fair communication is important, and education of the younger generation is needed. But mobilisation must be accompanied by an offer that makes responsible practices possible: simplicity, proximity and legibility are essential.

In concrete terms, how does Citeo work on new behaviours?

S.F: We collaborate with the academic and research community to better understand and act on these behaviours. For example, we are a partner in a Cifre** thesis in social marketing and will join the IPCC*** of behaviour. Throughout the year, we conduct numerous studies to understand attitudes, opinions and representations, and to analyse the evolution of practices. In addition, the CEI or collaborations with partners make it possible to support experiments in the territories. The field counterpart of the studies is fundamental: each experiment provides a ground for analysis and understanding of behaviours in order to find relevant solutions.

SORTING: A PIONEERING MOVE FOR THE ENVIRONMENT

1992 – 2022

Within 30 years, the preservation of the planet has become an essential concern for the French and sorting has become their first effort for the environment. It is even considered the second obligation as a citizen after… voting!

Nearly 9 in 10
French people say they sort their packaging

86% put sorting and recycling at the top
of their list for effective action for the environment

Sources : Observatory of Responsible Consumption, L'Obsoco x Citeo, 2021; Harris Interactive study, 2016; Observatory of the sorting of packaging, 2019.

* Observatory of Responsible Consumption, L'Obsoco x Citeo, 2021.
** Industrial training agreements through research.
*** Intergovernmental Panel on Climate Change.

NEW BEHAVIOURS

NEW INFO-TRI TO GUIDE SUSTAINABLE BEHAVIOUR

Created by Citeo in 2012, the Info-tri (sorting information) guide accompanies consumers in their sorting by specifying precise sorting rules for each element that makes up packaging and paper.

With the simplification of sorting deployed everywhere in France, Info-tri had to evolve. In 2021, a new formula was introduced: even clearer for consumers, with a harmonised sorting rule, and easier for companies to implement. Since 1 January 2022, it has become mandatory for all packaging and graphic papers, on which it is gradually being deployed. To ensure the success of the new label, Citeo worked with consumers and businesses for two years, seeking to understand how people perceive and understand environmental claims, to which they are increasingly responsive. Among them: the sorting rules displayed on packaging, whose presence is important for 79% of consumers surveyed, and even an incentive to buy for 64% of them*!

During its development, the new Info-tri was subject to several consumer tests. Results: 82% say it is useful to them and 75% say it encourages them to sort. To ensure operational implementation, Citeo and Adelphe have worked closely with their clients and professional organisations.

* Shopper Study, Citeo x Action Plus, 2020.

Reuse-info on packaging

Citeo has also developed a product signage to identify reusable packaging that can be returned to shops.

EVERYONE SAY: "ALL PACKAGING GOES IN THE RECYCLING BIN!"

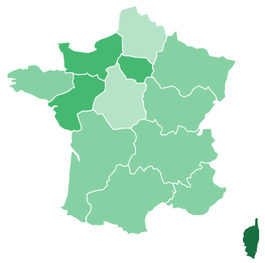
The final stretch for the simplification of sorting. A major leap towards a roll-out throughout France has been achieved in 2021, with 8 million additional people able to sort their packaging and paper.

There are 41.6 million people who can do so, nearly two-thirds of the population. The most advanced regions are Corsica, Île-de-France, Normandy and Pays de la Loire (see opposite). And to reach 100% by 2023, Citeo is accelerating its deployment by setting up a specific support for local authorities that have not yet taken the plunge.

To promote the visibility and adoption of sorting, Citeo has devised an impactful mobilisation campaign: "Sorting is Giving Recycling a Head Start", which was extended from 2021 to 2022 on television and digitally, reaching over 80% of the French population. The message? As simple as the rule it presents: "All packaging goes in the recycling bin!"

Remember that the simplification of sorting aims to remove doubts about sorting rules and increase the volume of packaging recycled (+ 3 kilos of packaging per person), supports the modernisation of sorting centres, and develops new recycling solutions for packaging that is not recycled, or is poorly recycled.

Percentage of the population affected by the simplification of sorting (on Dec. 31, 2021)



HOME, STREETS, NATURAL SPACES... NEVER BREAK THE THREAD OF SORTING!

Non-household consumption has exploded in the last 30 years: access to sorting must adapt to these changing habits. In the city as well as natural spaces, Citeo and its partners are multiplying projects to optimise sorting systems.

In 2021, destination La Rochelle and Amiens for experiments conducted with JCDecaux: the Urban Recycling Point (URP), an attractive and ergonomic sorting station designed for city dwellers and tourists, and whose design has been entrusted to designer Patrick Jouin. Placed in strategic locations with high traffic (train stations, tourist and student areas, etc.), the URP terminals have been a great success with users: in Amiens, 99% find them useful and 96% are satisfied with their location in the city. A larger-scale deployment is being considered.

2025
Generalisation of selective collection outside the home (AGEC law - art. 72).

On the nature side, an experiment was carried out on an exceptional site: the Verdon Regional Natural Park, which sees its frequentation strongly increase between May and October.

Within the framework of Citeo's CEI on out-of-home consumption, the communities of Lacs et Gorges du Verdon and the South Provence-Alpes-Côte d'Azur regions have installed 18 sorting points around the Sainte-Croix Lake and deployed a mobilisation campaign. The experiment was successful and enabled 35 tonnes of packaging to be collected over the first summer season in 2021.

ECO-DELEGATES MOBILISED FOR THE PLANET

Sustainable behaviour forms from a very young age. Since its creation, and in particular through its Club Citeo program, Citeo has pursued an active policy of eco-citizenship education. A milestone: the 2021 Eco-Delegate Action Awards, in which Citeo was a partner along with Bayard, We Demain, ADEME and the Ministry of National Education, Youth and Sports. Among 270 applications pre-selected by the academies, three projects have been awarded at the national level (school, college, high school) and address several themes: biodiversity, waste, inclusion, etc.

Beforehand, Citeo launched a campaign on the social network TikTok with eight influencers, to encourage their community to get involved and participate in the contest. This campaign generated more than 1.5 million views and many positive responses from eco-delegates.

THE ANSWER IS IN THE APP!

No more doubts when it comes to sorting! Created in 2013, the Sorting Guide app indicates the sorting rule for each product's packaging component, throughout France, and nearby collection points (more than 500,000 downloads to date). In view of its success, Citeo has strengthened this service in 2020 with the "My Impact" section, to highlight the positive environmental impact of sorting, as well as the "My eco-actions" section, which helps users to adopt the right sorting habits for each category of waste (packaging, but also dangerous products, medicines, etc.).

And the service is continuously improving. In 2022, Citeo launches the scanning functionality: via the app, each user can scan the barcode of packages to find out its sorting rules. This evolution is the result of a collaboration between Citeo and its partner Alkemics, and with the important help of its customers, who can now feature their products on the Sorting Guide by specifying the information on their packaging.

+ THAN 25,000
citizen contributions on the app in 2021:
requests to add collection points, for additional sorting rules for specific packaging and specific objects, etc.

ABANDONED WASTE: A MATTER OF GOOD CITIZENSHIP?

According to an Ifop-Citeo study, one in two French people are shocked by the abandonment of waste. According to them, the number one cause is incivility, ahead of pollution and irresponsibility. Solution #1? The penalty. More than half of the French see it as a solution to the problem of abandoned waste, especially through fines, before education or collection. Finally, 96% say that when it comes to waste, every little part is important... starting with sorting!

PACKAGING AS SEEN BY CONSUMERS

The overall opinion is improving, with 4 in 10 consumers saying they feel that packaging has evolved to take the environment into account.

More recyclable packaging!
Cited by 71% of respondents, recyclability is the #1 environmental advantage of packaging.

Consumers also have expectations for reduction (less plastic, an end to over-packaging) and want more packaging made from recycled material.

Source: Shopper Study, Citeo x Action Plus, 2021. Conducted with 2,300 people in store, immediately after purchase.

New objects

Practical, often innovative, sometimes iconic... the objects and equipment for collection, sorting and more recently reuse are part of everyday life. From the yellow bin to collection trucks, including reusable packaging, these objects make waste management in public and private spaces visible. These are often technical solutions, but also a means of communication and education that seek to inform and encourage action to improve sorting and reuse. Citeo's Director of Reuse and New Collection Services, Sophie Fabre is objective on the subject.

Are these objects our best ally for sorting?

S.F: Absolutely! It's a very meaningful interface: its shape, its colour, its touch... the messages that can be conveyed by objects are numerous and the consumer-citizen takes it on board. The recycling bin is emblematic. At home or away, the objects and information on the rules of sorting attract and guide consumers in their actions. Before the introduction of EPR, packaging waste was hidden away and considered dirty.
Today, it is a resource that can be recycled and put in the yellow (or green) bin or at sorting points in the street. They are even highlighted at events and festivals.

"WHAT MATTERS IS THAT THE SOLUTION IS RELEVANT FROM AN OPERATIONAL, ECONOMIC AND ENVIRONMENTAL POINT OF VIEW, WHETHER IT IS LOW-TECH OR HIGH-TECH"

Sophie Fabre
Citeo's Director of Reuse and New Collection Services

What are the new collection and sorting objects for?

S.F: First of all, to optimise collection and capture all packaging and paper. At home, sorting is well established and its simplification throughout France by 2023 will further improve its understanding. Outdoors, new objects also serve to capture packaging resulting from mobile consumption. For example, the "Trilib" stations, which are particularly well suited to the metropolis of Paris, and the wooden bins in Parisian parks or the beaches of Marseille.

The objects also support the improvement of reuse. New containers and packaging are designed to be used several times.

And automatic collection machines are being developed to collect this reusable packaging and allow them to be reintegrated into the industrial circuit. They are also used to complement the yellow bins, by recycling packaging materials collected (plastic bottles, paper, plastic bags, etc.)

The objects are also able to help fight against abandoned waste. For example, retention nets to hold back macro-waste and prevent it from ending up in rivers.

Are these new objects necessarily high-tech?

S.F: No, not necessarily. What matters is that the solution is relevant from an operational, economic and environmental point of view, whether it is low-tech, high-tech or a combination of both.

The yellow bin is low-tech, and its efficiency no longer needs to be proven. On the other hand, in some cases, technology can make all the difference. For example, when an automatic collection machine can integrate compaction technologies or shredding of packaging, it reduces the volume of waste to store and transport.

What is the current trend in terms of innovation?

S.F: Emulation! Sorting, collection and reuse are crossed with new solutions that sometimes materialise as objects.
The digital dimension is obviously very important to connect these objects to apps that provide a better service to sorters, or to measure the levels of recycling bins in order to facilitate collection, for example. We identify and accompany the best solutions financially and technically.

THE RECYCLING BIN: DIVERSITY IN LINE WITH USAGE

Glass recycling bin
The first packaging to be sorted was glass. As early as 1974 glass bins make their appearance.

Yellow bin
In 1992, all packaging was placed in the common recycling bin. In 2007, le Grenelle de l'environment aims to harmonise its yellow colour for easy recognition (likewise with green for glass).

Underground bins
From 2005 onwards, these appeared in large-scale housing developments to facilitate sorting, which until then were only found in small garbage disposal spaces.

The Trilib'
Big cities are making room for sorting. No more hiding, recycling bins are now found in most public spaces, like the Trilib' in Paris!

Wooden bins
Better integrated into urban or natural spaces, this recycling bin facilitates all of our out of home consumption, whether in public parks, at the beach or in the mountains!

1992 2022

NEW OBJECTS

CARGO BIKES: RIDE AND COLLECT!

A low-tech, ecological and engaging innovation: collection of residents' packaging and retailers' cardboard boxes by cargo bike throughout the city centre of L'Isle-sur-la-Sorgue (Vaucluse).

The bike is equipped with a trailer fitted with a compartment for yellow bags (plastic, metal, paper and cardboard packaging) and another for boxes. The project originated from two observations: lower sorting performance than the national average in the department (60 kilos/year/inhabitant versus 70), and a downtown area with narrow streets, which makes it difficult for collection trucks to circulate and for residents to get around. The cargo bike has attracted the attention of Citeo, which selected it in 2019 for the CEI on innovative collection, launched with the Ministry of Ecological Transition and ADEME. Carbon-neutral, low-noise pollution and a high potential for raising awareness among residents and retailers, this device certainly isn't lacking advantages!

3 DEVICES

deployed in the South of France in 2021 (L'Isle-sur-la-Sorgue, Arles, Marseille).

AUTOMATIC COLLECTION MACHINES, A GOOD ADDITION TO THE YELLOW BIN

An object that complements the bins and recycling points: the Reverse Vending Machine (RVM)

A self-service collection machine that rewards those who drop off their empty packaging. Between 2014 and 2020, Citeo supported two RVM experiments that collect and compact or transform plastic bottles into flakes, and more recently the first RVM for reuse.

Both experiments achieved positive results: the machines allow for the capture of additional tonnes compared to those collected by yellow bins, have a positive impact on our sorting behaviours and finally to boost collection in areas where sorting performance is low. In fact, they can contribute to meeting the regulatory targets for the collection of plastic beverage bottles (77% in 2025 and 90% in 2029).

This is why in 2020 a call for proposals was launched to deploy up to 400 RVMs for recycling in France, mainly in the car parks of supermarkets and hypermarkets.

In addition, to simplify and accelerate reuse, RVMs could also make a difference. Among the pioneering initiatives include Système U, which has tested an automatic glass recycling machine in one of its stores in Brittany. An experiment supported by Citeo and ADEME, which aims to test the appetite of consumers, the economic viability and operational feasibility of a complete reuse circuit.

3,400 TONNES

of plastic bottles and containers collected in 2021, or 125 million units.

PACKAGING AND REUSABLE CONTAINERS: STANDARD IS THE NEW BLACK!

In order to meet the objectives of AGEC law, in 2021 Citeo begun in-depth work with companies, packaging manufacturers and reuse operators.

The objective: to define future reference packaging to be used in systems on a national scale. Three future ranges are being explored: fresh produce, beverages and catering. Standardisation criteria include container shape, capacity, materials and closure types. All these criteria must be suitable for the products that the packaging will contain.

This collaborative project, a brand-new circuit of packaging to be put in place, is being conducted over several years.

The containers can be returned, sorted, washed and refilled throughout the region. New logistics will have to be put in place (stricter transport, well-distributed washing centres, easy access for companies, etc.). Finally, the return process must be simple and well explained to consumers.

10%
of packaging
placed on the market in 2027 must be reused (AGEC Law).

CONNECTED TRUCK, QUALITY SORTING

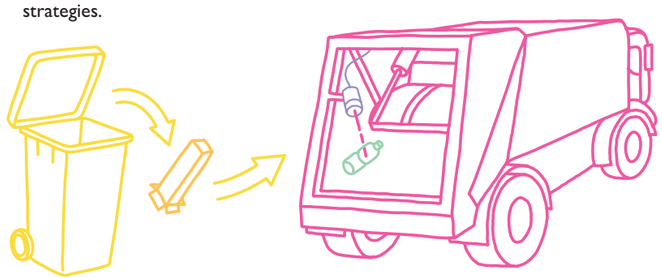
Citi'Tri, a collection truck equipped with a camera and software for identifying packaging and paper.

Its goal? To measure the quality of residents' sorting at the time of collection thanks to... artificial intelligence! The camera photographs the contents of the bins once they have been emptied in the collection truck and allows the software to detect error rates per neighbourhood, by street and by collection point. Based on the results obtained, targeted communication or awareness-raising operations are carried out with locals to help them improve their sorting.

Citi'Tri also measures changes to evaluate the benefits of action taken and allows local communities to adapt their strategies.

Developed by Simpliciti in collaboration with Lixo, this technology aims to improve productivity by automating the quality control of packaging and paper to be sorted, as soon as the truck arrives at the sorting centre!

Experiments are being carried out in Tarbes and Vannes and, in view of the results obtained, this solution is now being marketed to the collection industry. Citi'Tri is one of the seven solutions selected by Citeo in its call for projects dedicated to promising artificial intelligence technologies.



RETENTION NETS WEAVE THEIR WEB

Preventing waste from entering our waterways? This is the goal of the retention net awarded by the CEI dedicated to the fight against abandoned waste, launched by Citeo, the French Office for Biodiversity and the Association of French Mayors. Placed upstream in the rainwater network, at the drain level, or downstream in the outlet (network), it traps macro-waste.
This device allows managers to evaluate and count waste, and to identify the places where it accumulates. Local authorities and associations can then carry out prevention and awareness-raising actions.

200

of Marseille's rainwater network drains are equipped with macro-waste traps as part of the Synchronicity project.

New materials

Depleting resources, the need to reduce the use of plastic and the search for recyclability for all packaging materials are being re-examined. Faced with these challenges, do they need to be reinvented? What qualities are required of new materials to be part of a circularity logic? To answer these questions, Valentin Fournel, Citeo's Director of Eco-design Services, takes us to the heart of the material. ↦

"CITEO HAS ALWAYS PURSUED THE SAME OBJECTIVE: TO DESIGN PACKAGING WITH THE LOWEST POSSIBLE IMPACT ON THE ENVIRONMENT"

Valentin Fournel
Citeo's Director of Eco-design Services

Why are you interested in new materials?

V.F: Alongside companies and suppliers, Citeo has always pursued the same objective: to design packaging with the lowest possible impact on the environment. The evolution of current packaging materials and the development of new materials can help us achieve this.

How can this be done in practice?

V.F: By improving the recyclability of packaging. There is still progress to be made on plastics, of which only 65% are recyclable, but all materials must make progress because the challenge is to maximise the proportion of material recovered for recycling. We are aiming for 100%! To achieve this, we need to make packaging less complicated. To do so, one watchword is to develop monomaterial or monoresin packaging for plastics. This is the purpose of the work we are doing with paperboard, in particular with the Centre Technique du Papier *(see next page)*.

Do the new materials address issues other than end-of-life?

V.F: Yes, I would cite three examples. In line with the national low-carbon strategy, we are pursuing the objective of decarbonising the material as much as possible. The European "Furnace of the Future" project aims to reduce emissions from glass production by 50%. The project led by Lanzatech is proposing to manufacture a new plastic from carbon monoxide; this is very interesting in terms of circularity. In terms of reuse, we are seeing the arrival of new materials to enable packaging to be used many times: stainless steel, which is still not very common in packaging and new types of glass and plastic. Finally, regarding abandoned waste, the challenge is to ensure that there is as little impact as possible when packaging ends up in the environment. We are starting to mobilise R&D on this issue, which could lead to new materials or formulations.

How do we make recycled material such as this the future?

V.F: This material is key in the circular economy: the more we succeed in integrating it into packaging, the more we develop its outlets, which eases the pressure on resources. Many companies are committed to using as much of it as possible, as it is also a strong element of product promotion, such as the "bottle-to-bottle" clear PET bottles.

To achieve this circularity for plastic trays or pots, we are supporting projects that will allow the return to food contact. Let us also note a current issue in favour of recycled materials: the geopolitical issue. Manufacturers are seeking to protect themselves from the impact of crises on price fluctuations in order to secure their supplies. The more this material is used, the more its cost will be able to compete with the cost of raw materials, which are now unfavourable in comparison to recycled material.

How does Citeo support the dynamics around these materials?

V.F: We intervene at four levels: in R&D and innovation to provide technical and financial support for promising projects until they are industrialised, by disseminating knowledge to all our clients and putting them in touch with project leaders, by helping our clients to make the best choices, and by encouraging the use of recycled materials by modulating our tariff.

But let there be no mistake: each new material created must prove its environmental and economic relevance. It is not a question of increasing them but to rationalise them and choose those that will enable us to reduce all environmental impacts, while at the same time optimising costs and the industrial tool.

1992 2022

RECYCLED MATERIAL: A PART OF EVERYDAY LIFE

The majority of packaging and paper is recycled in France, and this recycled material can now be found in packaging and everyday objects.

75%
recycled paperboard
on average in all new paperboard packing

25%
recycled plastic
in all new plastic bottles

up to 90%
of cullet (recycled glass)
in glass bottles

Recycled material can also be found in stuffed animals, duvets, car seats, rubbish bags or even engine parts.

NEW MATERIALS

THE PAPERBOARD COFFEE CUP IS UNDERGOING A REVOLUTION

Your go-to paperboard “coffee break” cup is designed to be as mono-material as possible and always recyclable!

With Earth Cup®, CEE Schisler is offering an innovative cup based on coating, i.e. the application of a varnish that gives the paperboard water and grease barrier properties. Thanks to a project supported by Citeo, CEE Schisler has further improved the recyclability of its cup. This new version has already been adopted by some hot drink vending machine operators.

The Centre Technique du Papier (CTP) and Citeo are going even further with a cup that incorporates only 3% water-soluble plastic (to weld the sides and bottom of the cup together). The impermeability of the packaging is obtained by chromatography, a technique that consists of grafting a fatty acid molecule onto a small part of the cellulose molecules that make up the paperboard fibres. This solution can be recycled in the paper and cardboard industry and is currently being certified for its suitability for food contact.

MC2: THE FUTURE OF THE FOOD TRAY?

Currently, the majority of food contact trays are made of PET and those made of moulded cellulose are in the minority. The barrier properties of the latter are obtained by adding a plastic film or polymer-based additives that regulations tend to reduce or prohibit. It is to break this deadlock that the MC2 project was launched in 2021, led by the CTP, Citeo and eight industrial partners.

Its goal? To develop and certify cellulose trays with a single material and a barrier against water, grease and gas. The target markets? Fast-food restaurants and institutional catering, which require these containers to have high mechanical characteristics (tear resistance, rigidity, etc.), strict compliance with the food chain of custody and controlled energy consumption at the manufacturing stage. It is through a film of cellulose microfibrils, biodegradable and recyclable in the paperboard chain, that MC2 will ensure the barrier properties of this tray. This project runs until 2023.

REDUCED CONTENT IN MINERAL OILS

Conclusive results for Citeo’s call for offset/heatset projects in 2021: the eight selected printers succeeded in printing leaflets, catalogues and magazines with inks with reduced mineral oil content. After comparison with traditional inks, the three alternative inks tested were unanimously approved by the professionals.

This is an important step forward because these inks meet the challenges of the circular economy as well as human health: reducing consumer exposure to mineral oils, as recommended by ANSES*, and securing the recycling loops for paperboard packaging by limiting the mineral oils in the recycled fibres.

Note that in application of the AGEC law, the ministerial order published on 3 May 2022 set the technical criteria for banning mineral oils. If the alternative heatset inks adopted by printers are compatible with the criteria that will be in force until 31 December 2024, they will not be able to meet the criteria applicable from 2025. Citeo will support the R&D work required to develop inks that comply with the 2025 criteria.

* National Agency for Food, Environmental and Occupational Health Safety.

WHAT PLACE DO NEW PLASTICS HAVE?

If reduced strictly to utility, plastic is still an effective material for packaging products and avoiding waste.

In order to meet regulatory targets and reduce our dependence on fossil fuels, recycled plastics from renewable resources will play a greater role in packaging. In any case, this is Citeo and its clients and partners’ thinking with the Citeo Prospective programme.

Sugar cane-based PET and PE packaging has been on the French market for several years. They offer an alternative to fossil-based plastics and fit perfectly into existing recycling channels. Innovations are emerging to use more local or non-food resources: plastics made from CO_2, algae, wood, used cooking oil or methane.

These plastic resins should combine packaging efficiency with reduced environmental impact. In the case of bio-based plastics, it is therefore necessary to measure the impacts of their agricultural and industrial production and assess the best options for their end-of-life (recycling, reuse, composting, etc.). Promising resins are emerging from this research, such as PLA, PEF or PHA, for which the producers will have to build dedicated recycling channels. Citeo is therefore working with its customers and partners to create economically and technically viable channels.

NEWSPAPERS AND MAGAZINES TURN THE PAGE ON PLASTIC PACKAGING

Success for the new newspaper and magazine packaging deployed throughout the country in 2021. The E-bliss project involves three years of R&D by the CTP, Citeo manufacturers, routers and the press. The result: a transparent, heat-sealing film made from cellulose fibres that can be recycled.
This project has inspired producers of routing solutions who have each developed their own paper solutions.

Cellulose Valley, not a paper-thin idea!

Designing new cellulose-based materials for the packaging industry: this is the work of the Cellulose Valley industrial teaching, launched in early 2022 by the Grenoble INP Foundation, in partnership with DS Smith Packaging France, Ahlstrom Munksjö, Alphaform (Guillin Group) and Citeo.

E-COMMERCE PLASTIC SLEEVES SWITCH TO RECYCLED

Incorporating more recycled material in packaging. A challenge taken up by La Redoute and its supplier Dody Plast, which now use up to 60% rPE in their e-commerce plastic sleeves, of which a maximum of 20% comes from packaging sorted by locals.

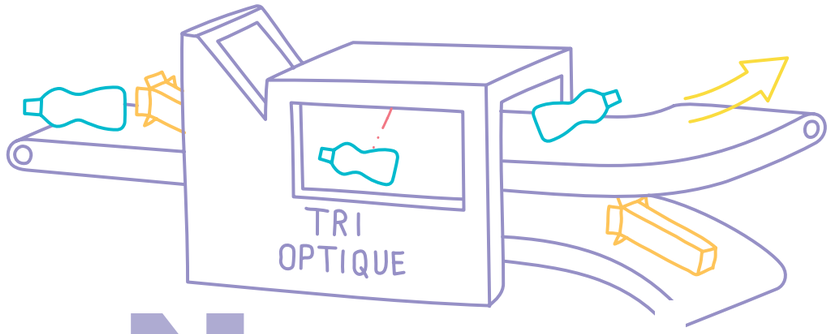
The duo has achieved this without increasing the thickness of the product, while retaining its essential functions (tear resistance, sealing capacity, opacity) and without changing the manufacturing process.

THE ECO-FRIENDLY "BAG-IN-BOX":

Two years of ambitious work by Adelphe on the eco-friendly Bag-in-Box® (BIB). Companies, packagers, manufacturers, recyclers... fifty or so players have taken part with Citeo’s subsidiary. At the end of 2021, Adelphe published a guide of best practices for producers. Based on the conclusions of the working group, 20 operational recommendations were made for eco-designing the BIB: inks without mineral oils, hot-melt glue, recycled paper and cardboard, carbon black free tap, Info-tri, LDPE bags, plastic-free handles, etc.

MATERIALS GET THEIR OWN NEWSLETTER

A focus of information dedicated to packaging and materials! This new service launched in 2021 for its customers offers deciphering of the latest materials. Our experts provide their view and recommendations.



New technologies

Admired or despised, technologies are an engine for progress. This is true for sorting and recycling, which have constantly improved over the past 30 years. What final boundaries can we break down? What challenges of the circular economy and more specifically recycling issues can we respond to? We hear from Sophie Génier, Citeo's Director of Recycling Services.

What impact do technologies have on sorting and recycling?

S.G: It is considerable. Take optical sorting. It has made it possible to automate sorting centres, to capture and sort more packaging, to improve their quality for recycling and thus increase their marketability.
As for colour sorting technology, it can separate white glass from coloured glass and thus increase the market for recycled glass. And these are not the only examples.

"RECYCLING TECHNOLOGIES ARE HELPING US REACH 100% OF SOLUTIONS"

Sophie Génier
Director of Recycling Services

Can they accelerate the circular economy?

S.G: Technologies are helping us to move towards 100% recycling solutions for packaging, provided that sorting and collection are optimised and eco-friendly. Recycling technologies work better with, for example, single-material packaging: when PVC ends up at the end of the recycling chain in a PET bundle, the material is yellowed, stained black and is discarded from the process.

On the recycling side, what new technologies are being developed?

S.G: It is recycling technologies, particularly molecular or enzymatic, which open up new prospects for recycling categories of packaging that are poorly recycled at present and to improve the outlets for the material: recycling of PS packaging with a return to food contact, and the same goes for PET sealed trays. We should also mention PP film and some PE and PP-based films, treated to obtain a pyrolysis oil capable of replacing fossil resources in the manufacture of new plastics suitable for food contact.
Mechanical recycling technologies can also help by developing outlets; as in the SUPErPE project, where the supercritical CO_2 technology is being developed to 'decontaminate' the recycled plastic.

Are these new technologies mature?

S.G: Many of them are at the pilot development stage, which precedes the industrial stage. There is real emulation among industrialists who have made numerous announcements regarding the creation of new recycling capacities: by 2023, the recycling unit of TotalEnergies and Plastic Energy, also associated with ExxonMobil on another project. For 2025, Indorama and Carbios should be mentioned, who will use enzymes to recycle complex PET plastics that are currently difficult to process; and Loop Industries and Eastman, whose investment project was announced as part of the Choose France programme.

Does artificial intelligence (AI) have a role to play?

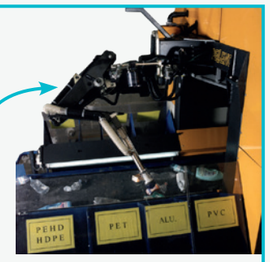
S.G: Absolutely. During the collection process, new AI technologies are helping to measure the quality levels of incoming flows. In the sorting centre, they allow optical sorting to overcome its limitations, such as detecting dark packaging or material combinations in the packaging. Ultimately, AI makes recycling more productive and opens up high value-added opportunities, thanks to a higher quality recycled material.

How does Citeo support the emergence of these technologies?

S.G: We still need to know which technologies best meet the needs of companies and recyclers! To determine this, we act collectively by bringing players together in working groups, by type of material or resin. Through our R&D programmes, our calls for projects and the Circular Challenge, we provide financial and technical support for the most promising technologies. We also play a role in the environmental and economic impacts of these innovations.

1992 2022

THE OPTICAL SORTING REVOLUTION



It was in 1996 at the Pollutec exhibition that the first optical sorting machine was presented: an articulated arm capable of picking up packaging waste on a sorting belt and designed by Pellenc ST, a French company specialising in apple picking, before expanding into industrial sorting. And it is in a sorting centre in Limeil-Brévannes that the technology is deployed for the first time, and based on the infrared technology we know today, is capable of detecting different materials and directing them to the right recycling stream. This technology has made it possible to increase the sorting capacity of packaging and paper, and to improve the working conditions of the staff who now carry out less handling, but rather focus on quality control at the end of the process.

5 to 10
optical sorting machines
on average per modernised sorting centre

100%
of sorting centres equipped
by the end of the simplification of sorting process

NEW TECHNOLOGIES

COMPLEX SOFT PLASTICS BEING TESTED

At the end of 2021, a test line was inaugurated, the only one of its kind in Europe. Its goal: to check whether certain flexible packaging made of complex plastics, composed of different plastic resins but also materials (plastic/aluminium, etc.), can be recycled in existing channels.

The main advantage? It reproduces the processes of an industrial-scale recycling line on a pilot level. The results obtained are therefore transposable to the scale of the sector. On the players' side, we have IPC* as the pilot and COTREP** (Elipso, Valorplast, SRP and Citeo).

Observations to date: limit the association of PP/PE in the context of mechanical recycling as much as possible. Regarding the main barriers used with flexible PE, EVOH is compatible with recycling whereas polyamide (PA) is not.

Work is continuing in 2022 on SiOx, metallisation barriers (such as aluminium chip packets) and those made of water-based coatings.

* Industrial Technical Centre for Plastics and Composites.
** Technical Committee for the Recycling of Plastic Packaging.

TATTOOED PACKAGING FOR BETTER IDENTIFICATION

Holygrail 2.0 is THE European project in terms of digital "marking" of packaging.

A project led by CEI and the European Brands Association, which mobilises 130 companies and organisations. Citeo is a member of the leadership team and participates in the strategic directions of the project which aims to improve sorting performance. How is this done? By promoting the recognition of materials in the sorting centre thanks to the digital watermark, an invisible mark on the packaging.

Today, the project is moving forward! The technology was tested successfully in 2021-2022 on a semi-industrial scale in Denmark: 99% of the different categories of plastic packaging materials were detected, and the purity rate of the sorted materials is 95%. The industrial implementation of the Holygrail technology is planned for 2022 in Denmark, Germany and France by companies Pellenc ST and Tomra.

BOOSTING ALUMINIUM RECYCLING!

Two focus projects. The first with an ambitious goal: to remake new cans with cans sorted by the public. The Altercan project, with France Aluminium Recyclage, is experimenting with new processes for preparing the material to be recycled in order to expand its outlets (currently limited to car engines). They concern all rigid aluminium packaging.

Small, flexible aluminium packaging is being recycled using pyrolysis! If they were recycled directly using conventional processes, they would burn. This is why pyrolysis is the preferred option for purifying and recovering aluminium before refining. This solution is being studied by Paprec and Etia, with the support of Citeo. The two manufacturers are currently testing the economic and environmental viability of this technology.

MORE (ARTIFICIAL) INTELLIGENCE IN SORTING

A closer look at Qualixo and Triscell, two projects that use artificial intelligence to refine the sorting of materials.

7 WINNERS

selected by Citeo after the 2020 call for projects on innovative technologies for identifying packaging and paper.

In 2021, Qualixo deployed its box developed by Lixo in two sorting centres and recyclers. At the start of the process, the technology detects intruders and machines, suggests treatment solutions, and allows for quality monitoring at the end. All materials are included. This experiment, supported by Valorplast, Eurecka and Lixo, will run until the end of 2022 and should confirm the effectiveness of the detection of materials thanks to the AI module combined with a camera.

For its part, Triscell aims to improve the sorting of paperboard packaging and graphic paper by means of algorithms based on infrared spectroscopy technologies. The goal is to create specific office paper flows, differentiate white and grey cardboard from graphic papers, and characterise the flows of complex paperboard to improve markets. In 2022, the project leaders Pellenc ST and the Centre Technique du Papier achieved good results in improving the current performance of optical sorting.

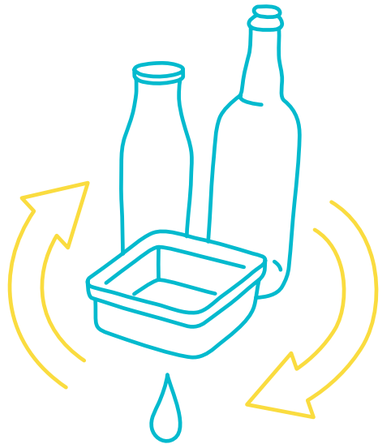
30 MILLION PEOPLE CAN SORT SMALL ALUMINIUM AND STEEL

Project Metal goal achieved one year ahead of schedule! 47 sorting centres (+12 in one year) have been equipped with machines capable of capturing small aluminium and steel packaging and direct them towards recycling. This amounts to 2,000 tonnes of small aluminium packaging recycled in 2020.

BLOCKCHAIN: TRACK AND TRACE PACKAGING AND PAPER

Knowing and tracing the origin of recycled material is a guarantee of quality. What is its exact composition? What is its course from conception to recycling? How can we share this information?

To answer these complex questions, Citeo is developing the Wastechain project with the support of Brazilian start-up New Hope Ecotech, winner of the Circular Challenge. Their idea? To test in France a material flow traceability platform based on blockchain technology, developed by the start-up in Brazil and Chile. The use of blockchain makes it possible secure the data exchanged and make them accessible to all players of the recycling chain. An experiment that starts with aluminium bundles, followed by the sorting centre to the recycler.



New challenges

Climate, biodiversity, resources. These three words are the new challenges of our time. They call for the strengthening of Citeo's motivation in its historical missions: eco-design, collection, sorting and recycling. They also call for new solutions, such as reuse or the fight against abandoned waste, to reduce the impacts of our production and consumption on our ecosystems. An update with Laurent Grave-Raulin, Citeo's Director of Institutional Relations. ↦

"TO RESPOND TO THE ENVIRONMENTAL EMERGENCY, OUR PROJECTS MUST BE PART OF A PROCESS OF LOCAL, NATIONAL AND EUROPEAN LEVEL WITH ALL STAKEHOLDERS."

Laurent Grave-Raulin
Citeo's Director of Institutional Relations

If you had to name one great challenge of our time...

L.G-R: The ecological emergency! Preserving our planet is at the heart of Citeo's purpose. Can the circular economy help contain global warming in line with the Paris agreement? How can we design eco-friendly packaging that respects biodiversity and prevent it from ending up in nature? How can we preserve our resources and anticipate their depletion? Our action is more important than ever to address these questions.

What solutions does Citeo propose today?

L.G-R: I'm thinking of packaging eco-design and its reuse, two major aspects of our action. Eco-design, because it allows us to reduce packaging to its strict utility and to limit its carbon footprint by using less raw materials and by facilitating its recycling. On the subject of reuse, we advocate a national organisation of the system to make it as efficient and inexpensive as possible. The need to adapt to each territory and the issue of biodiversity also lead us to strengthen our action in the overseas territories. We are taking specific action there with local stakeholders to combat abandoned waste. It provides responses that are adapted to the historical, geographical and cultural particularities of each territory. Finally, we are strengthening our action to improve collection and develop new recycling channels.

There is an acceleration of the regulatory agenda and mobilisation on the environment. Does this impact Citeo's action?

L.G-R: These two aspects confirm the expectations of legislators and the public, and inevitably reinforce the dynamics of our actions. The latest laws (AGEC then Climate and Resilience), the Citizens' Convention and the numerous Marches for Climate are an illustration of this global awareness towards the ecological transition. In this context, companies and local authorities are working together on the implementation of a circular economy, from the local to European level. This raises the question of the deployment of EPR worldwide, a model that has proved its worth in France and can effectively limit or even prevent the issue of abandoned waste.

What is the link between abandoned waste and biodiversity?

L.G-R: It's close. The main thing is to avoid pollution from abandoned waste, ensuring that packaging doesn't end up in the ocean, and raising awareness to do the right thing. That's why we engage a broad network of stakeholders with the deployment of a biodiversity roadmap.

In the framework of two CEI, we are supporting nearly 70 projects on the fight against abandoned waste and on out-of-home collection, which are complementary. These collaborations allow us to establish strategies with associations and local authorities who understand the issues in the field. This method of co-construction at the local level legitimises our voice with national, European and international bodies, to continue to defend our strategy on reducing the environmental impact of packaging and paper.

EPR, A FRENCH MODEL USED BY THE WORLD

Antoine Riboud, Chairman of Danone at the time, was one of the founders of Eco-Emballages in 1992.

Along with Germany, France is a pioneer in the deployment of EPR systems.

This model took off with the decree of 1 April 1992 on household packaging before being extended to many products: batteries, paper, electrical equipment, etc. The AGEC law provides for the creation of ten or so additional channels by 2025.

For Citeo, this model, which allows France to recycle 72% of household packaging could be mobilised on an international scale to fight plastic pollution.

1992 2022

NEW CHALLENGES

FACED WITH THE BIODIVERSITY CHALLENGE: MULTIPLE RESPONSES

A close-up on three key actions that demonstrate the rise of Citeo's action on biodiversity.

- Implementation of the Citeo biodiversity roadmap. Its action is structured around four areas: supporting companies in improving their environmental performance; supporting local authorities in their structuring commitments; placing biodiversity at the heart of the tools for mobilisation and information for the public; promote the integration of biodiversity issues at national, European and international levels and in circular economy policies and projects.
- Integration of the biodiversity dimension in the life cycle analysis (LCA) of packaging. This is the ambitious objective of the project undertaken by Citeo with the I-Care firm in 2021. It aims to improve the inclusion of impacts on biodiversity for the five main families of packaging materials throughout their life cycle. The next step is to compare the initial findings with scientific and LCA experts for sharing and deployment with customers in 2023-2024.
- Accelerating the fight against abandoned waste through the CEI launched with the AMF* and OFB** and which includes 18 projects throughout France and in all environments. The fight against this issue is also the subject of the IDEAL*** pilot project launched with Nestlé, the Sud Provence Alpes-Côtes d'Azur region and the community of Lacs et Gorges du Verdon. The goal: to define preventive and curative actions to protect this exceptional natural site from abandoned waste and replicate the model in other territories.

* The Association of French Mayors.
** French Office for Biodiversity.
*** Limited Discarded Packaging Initiative.

PLASTIC PACKAGING: EXTENSION OF THE FIELD OF RECYCLING

100% solutions for packaging and paper, that is Citeo's ambition. It involves the emergence of new recycling channels that are economically and environmentally viable, particularly for plastic resins (PS, PET, PP).

At the beginning of 2022, the PS25 consortium brought together Citeo and representatives of the fresh dairy industry for the feasibility of creating a PS packaging recycling channel. This decision is the result of a combination of several success factors: massification of packaging thanks to the simplification of sorting, optimisation of collection, modernisation of sorting, the advent of new recycling technologies and increased recycling capacity. Another essential factor is eco-design: by successfully designing a yoghurt pot made entirely of PS, Triballat Noyal and Plastiques Venthenat, supported by Citeo, will greatly improve its recycling.

The PET25 consortium, launched in the summer of 2021, focuses on PET pots and trays with the same objectives.

As for the Club PP launched by Citeo in 2020, it is continuing to study the recycling of flexible packaging made of PP and complex polyolefins: assessment of the sources and recycling technologies, particularly pyrolysis.

The work of these consortiums is based on R&D projects led by Citeo (see box) and major investments announced by recycling and industrial players. In the field, the simplification of sorting will be rolled out by 2023, and progressively, almost all sorting centres will produce two development flows: the rigid stream started in 2019 (PS, opaque PET, coloured PET, PET trays) and the flexible stream (PE and PP). They supply materials for R&D and the industrialisation of these new recycling channels.

R&D: some of the projects led by Citeo

In the field of mechanical recycling:

- SUPErPE : technology based on supercritical CO_2 technology to purify recycled PE and PP resins, with the view of a return for food contact;
- PAPPCOR: a project for the evolution of PP rigid packaging recycling technologies to enable the integration of the recycled material into non-food packaging initially, then eventually into food packaging;
- Wellman project: recycling lines project: dedicated recycling lines for PET trays.

In the field of new recycling technologies:

- Fuscia: pyrolysis technology for complex plastic packaging waste.

TO RECYCLE MORE, WE NEED TO COLLECT MORE!

25% of packaging and paper put on the market ends up in household waste*. However, the vast majority of it is now recyclable, and will be tomorrow. Citeo and its partners are optimising the collection of this untapped source.

The first lever to achieve this: improving access to sorting for all, everywhere and anytime. At home, simplifying the sorting process is a key priority. Outside the home, we must ensure its continuity by offering residents adequate equipment to sort packaging and paper. Hence the organisation in recent years of the call for innovative collection projects, CEI on out-of-home projects, the deployment of Trilib' bins in the city, and sorting points around the Sainte-Croix Lake or the beaches of La Grande-Motte. So many collection solutions that are adapted to new uses, educational and well distributed over the territory, particularly in high-traffic areas.

Second lever: mobilise the public. Citeo conducts mobilisation campaigns to anchor sorting services, such as the Sorting Guide app. It also encourages experimentation or the implementation of levers, the most important of which is incentive-based pricing, which now concerns more than 6 million inhabitants. This makes it possible to increase the sorting of packaging and paper by an average of 30%. In addition, solutions for rewarding sorting are also being tested.

* CEPOM Citeo Study - 2021.

41 PROJECTS

for the implementation of incentive-based pricing are supported by Citeo, which represents 1.4 million inhabitants.

INVENTING REUSE ON THE BIG SCALE

In parallel with the work on packaging standardisation, Citeo has launched the ReUse project in September 2021. The aim? To model, from an economic, operational and environmental point of view, a national packaging reuse system. This projection work is being carried out on three versions of glass reusable packaging: the jar, the 75cl beer bottle and the "litre fraîcheur" (one-litre bottle used for juices).

25 manufacturers and distributors are working with Citeo on this vast study, which also aims to anticipate the rise of such a system and its impact on manufacturers.

OVERSEAS: TAILOR-MADE SOLUTIONS FOR SPECIFIC SITUATIONS

Spotlight on STS!

The company Sud Traitement Services is equipped to treat and recycle all glass in Reunion Island, including jars and bottles from selective collection.
Until exported for recycling, the glass will be incorporated into formulations for the concrete industry, creating a circular supply in the region.

Relatively recent selective collection, costs are on average 15 to 20% higher than in mainland France for 2 to 3 times lower sorting performance… Citeo is stepping up its action in and with the overseas territories thanks to Territorial Action Programmes: solutions adapted to each territory and agreed with local authorities. Thus, at the beginning of 2022, there will be 58 identified actions, from improving collection to out-of-home experiments and more than 65% financed by Citeo.

Citeo's action in the French overseas territories also includes the deployment of a TV, radio and digital campaign adapted to the local culture for French West Indies and French Guiana on one hand, and Reunion Island in 2021-2022.

In addition, Citeo supports 17 projects to develop local materials via financial and technical support within the framework of a CEI.

Finally, to better fight against abandoned waste, Citeo offers local communities a standard agreement to facilitate the action of those in charge of sanitation. The first was signed early 2022 with the city of Saint-Denis in Reunion Island.

Objectif Climat

THE "CLIMATE TARGET" PROJECT WITH THE BOURGOGNE WINE BOARD

2022
Adelphe, a subsidiary of Citeo, is launching an experiment in carbon reduction and neutralisation, choosing The Bourgogne Wine Board (BIVB) to contribute to neutrality by 2035.

30 to 40%
of the carbon emitted by the wine industry comes from packaging (glass, paper and cardboard, etc.).

What is Adelphe's role?
Extend the eco-design of packaging by supporting the BIVB in reducing and neutralising greenhouse gases throughout the entire wine value chain.

3,600 estates
have benefited from the methodology, 270 wine retailers and 16 cooperatives. coopératives.

New players

“Alone we go faster, together we go further.” This African proverb says in one sentence how collectiveness is a force for forward movement. Today, alongside the historical actors of EPR, new players in the circular economy, innovation and digital technologies are committed to accelerating the transition of our production and consumption towards more sustainability. Who are they? How does Citeo mobilise this wider ecosystem? How does it act as a catalyst for change? Cécile Séméviva, Citeo’s Director of Innovation, tells us about this inspiring (r)evolution. ↦

“WE ARE THE BRIDGE BETWEEN A LARGE VARIETY OF PLAYERS, ALL OF WHOM HAVE A ROLE TO PLAY”

Cécile Séméviva
Citeo’s Director of Innovation

Can we talk about a dynamic circular economy today?

C.S: Yes, it’s gaining momentum. In addition to a regulatory obligation, we are witnessing a voluntarily effort by citizens to make their lifestyle and consumption habits more sustainable, influencing those in their private and professional networks. The goal is to establish a circular economy, respectful of human health and biodiversity, that helps limit global warming. All forces are welcome!

Who are the newcomers in the circular revolution?

C.S: I’m happy to say there are many! Innovators are the first who spring to mind: impact investors, start-ups and those involved in eco-design, second-hand, waste collection, recycling and reducing littering. These active players are working on ideas to respond to new uses and reduce the carbon footprint of paper and packaging, each in their own way. A sign of the times, traditional and institutional financiers (large banks, investment funds) are integrating ESG criteria (environment, social and governance) in solidarity with the green finance sector. Other key players include ecosystem designers who organise complex models and interactions between different actors in the circular economy. My final mention must go to logistic coordinators and academics whose exchange of fundamental and applied research is stimulating.

How does Citeo work with these engaged players?

C.S: Citeo acts as a detector, coordinator and catalyst, encouraging key players to work together to produce the best solutions. In this respect, it’s essential to form links between key players, clients, partners and these new circular economy forces. This collaboration is an important factor in the success of the circular economy. An antithesis of the “every man for himself” philosophy, it’s reminiscent of the movement that led to the creation of Citeo 30 years ago.

How can you promote this synergy?

C.S: We rely on collective intelligence to create “Do Tanks” concerning various issues, such as source reduction, re-using, waste tracking etc. Despite their different approaches, our strength is bringing together clients (sometimes competitors!), manufacturers, local authorities and innovators to encourage collaboration on issues impacting the circular economy. The Do Tanks last less than a week during which solutions are prototyped then tested in the field.

We also strongly encourage a consortium of actors dedicated to specific topics. For example, the PS25 and PET25 consortiums dedicated to the creation of sustainable recycling channels for resin plastics.

Our ecosystemic vision of the subjects is essential for a successful and necessary scale-up from prototype to industrialisation. This is exactly the point of Citeo’s new Circular Challenge which offers 360° support for promising projects to implement concrete solutions that meet the needs of all stakeholders.

1992 2022

THE ENVIRONMENT IS NOW EVERYONE'S BUSINESS...

Since the creation of Eco-Emballages in 1992, environmental concerns have spread within all levels of companies, as well as in the various industries.

It is no longer solely the responsibility of environmental associations or CSR departments of large companies. Professional organisations, SMEs, designers, developers: the environment is now the concern and responsibility of us all. A chain of interdependent players who must now work together.

NEW PLAYERS

DESIGNERS: WHY THE CIRCULAR ECONOMY NEEDS THEM

When it comes to completely rethinking a packaging system, a whole value chain must be reinvented.

Whether ecosystem architects or industrial and organisational designers, these specialists are capable of creating a system structure and the interactions between different players to enable the circular economy to progress.

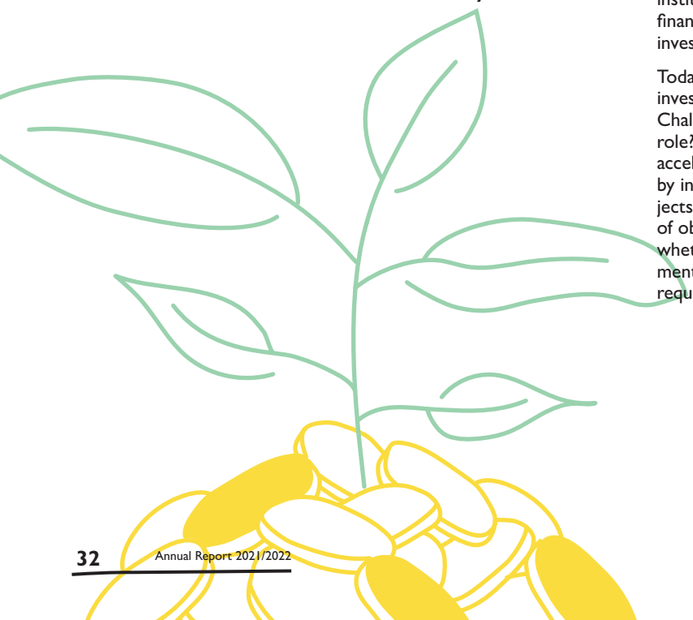
This is why Citeo relies on their expertise during the Do Tanks, for collective intelligence and prototyping tools. In 2021, as part of the Reuse Do Tank, alongside other players (companies, logistics and washing specialists, communities, start-ups, etc.), they have helped to conceptualise the implementation on a larger scale.
During the Traceability Do Tank, industrial designers designed the factories and modelled links between the different units.

Thanks to their know-how, designers can be as much a source of innovation and differentiation for companies as devices to standardise and rationalise packaging.

With this in mind, Citeo has entered into a partnership with Strate, a design school. Ahead of the Do Tanks, the student designers propose solutions to the problems that Citeo submits to them, such as routes taken by packaging and paper in the city. Because they act with fewer constraints, this young generation of future professionals hold a creativity that can inspire existing and future systems.

BEHIND THE "GREEN FINANCE" COMMITTED INVESTORS

Also known as “impact investors”, and rightly so because they are the ones who help create the conditions for growth and job creation in the circular economy.



They started by defining the so-called ESG criteria (for environment, social and governance), which allow the evaluation of a company’s CSR approach, and now influence the choices of institutional and traditional financiers (large banks, major investment funds, etc.).

Today, Citeo involves impact investors in its Circular Challenge accelerator. Their role? To finance innovation to accelerate the circular economy by investing in promising projects. They apply their methods of objectivity to determine whether projects meet environmental, social and economic requirements.

The support of Citeo and “green” financiers allows project leaders to limit the risk of their investments, boost their R&D and facilitate the implementation of their solutions on an industrial scale.

€837 MILLION

invested in 26 circular economy projects in 2021, more than all the operations between 2010 and 2020 (€742 million in 84 projects).

Source: CleanTech Barometer.

ENVIRONMENT AND BIODIVERSITY: ASSOCIATIONS AT THE HEART OF THE TOPIC

For the past decade, there has been a plethora of initiatives to protect ecosystems, initiatives have been overrun and are often led by associations that have developed expertise. In particular, Citeo has partnerships with a large number of players, including:

WWF France, for awareness-raising activities for young people towards marine biodiversity through Club Citeo, Citeo’s youth programme.

Gestes Propres, with whom Citeo has been co-signing 30 years of prevention campaigns against abandoned waste, among other actions.

The French Network for Nature and Environment Education (FRENE), partner of Citeo, is currently developing training courses on educational “street interviews” for managers of natural areas.

The French National Museum of Natural History, for the deployment of participatory science projects (zero waste platform and the Living Beaches programme).

The MerTerre association, which is one of the pioneers in this field, with which Citeo creates awareness-raising modules on identification and counting of waste, for use by the cleaning teams.

The Prevention and Waste Management of France Nature Environment (FNE), whose partnership with Citeo aims to raise awareness on the themes of the circular economy. In 2021, three training sessions focused on reuse, the fight against abandoned waste and out-of-home collection.

The “7th Continent” Expedition Association: 12 years of scientific missions and awareness-raising for the preservation of marine ecosystems, including three consecutive years with Citeo and the “Protecting the ocean can be learned” tour (in the Mediterranean in 2021).

PROFESSIONAL ORGANISATIONS PLAY THE GROUP EFFECT

Across all sectors of activity, professional organisations are long-standing partners of Citeo. Their unique position allows them to represent their members in institutional and regulatory debates; they are also very involved in the consultation bodies that define the framework of Citeo’s approvals. Increasingly active on circular economy issues, they are making it possible to accelerate the sustainable development of the production methods of a large number of companies, both large and small, bringing entire sectors into action. Thus, Citeo works with them to develop prevention and eco-design plans and organises more targeted operations. Here are a few examples:

In terms of eco-design, as of 2014, the French Federation of Industrial Charcutiers Traiteurs (FICT) has contributed to the design of mono-PET trays, replacing complex trays. Together with the Federation of Beauty Companies (FEBEA), Citeo has drawn up an eco-design guide, particularly aimed at VSEs/SMEs, and launched a call for projects on the recyclability of packaging. In terms of awareness-raising, the National Association of Food Industries (ANIA), with the support of Citeo, has launched the “Kidzenforme” programme. The goal: to raise children’s awareness of nutrition, physical activity and the importance recycling.

PACKAGING AND RECYCLING, THE INFLUENCERS' TAKE

22 INFLUENCERS

Partners of Citeo in 2021, with **content viewed nearly 5 million times.**

To reach new audiences, new channels are sometimes needed. In 2021, Citeo collaborated with several influencers from the social networks and YouTube, who are increasingly interested in environmental issues. These partnerships were suitably conducted on the occasion of World Recycling Day, or the “Tricember” campaign to simplify the sorting of waste. These partnerships make it possible to reach a young target, to propose different ways of talking about sorting, recycling, and responsible consumption, and to embody these subjects through diverse personalities from different backgrounds. And above all, to educate!

Scilabus and DirtyBiology are both in charge of popular science YouTube channels. With the help of Citeo, they have taken an interest in the issues surrounding packaging, adopting unexpected angles to attract the attention of a wider audience. DirtyBiology thus offered a dive into the international space station at the time of recycling!

CITEO'S TEAMS, AT THE SERVICE OF PERFORMANCE

285 employees work for Citeo and Adelphe. The company is organised around three departments and its subsidiary, to meet its strategic challenges with clear responsibilities and scope, strengthen its collaborative and cross-functional capacity and mobilise skills and talent.

STRATEGY, INNOVATION, CUSTOMERS & OPERATIONS LED BY ANTOINE ROBICHON, DEPUTY DIRECTOR GENERAL

In charge of the four key points in the sorting and recycling value chain:

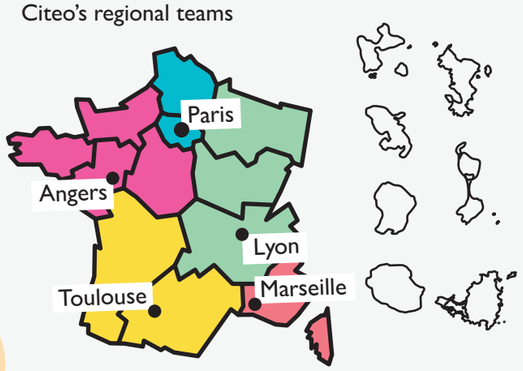
Eco-design services: develops tools, disseminates offers and services to customers, and supports them in reducing the environmental impact of their packaging and paper.

Selective collection and territory services: this is the first service that Citeo provides to its clients and the public. To better manage the transformation of the system on the ground, the territories service is organised around five regional teams that work with local players daily, both in France and overseas.

R**euse and new collection services (excluding yellow bins):** experiments with the collection methods of the future, supports projects and anticipates the modelling of Citeo's new perimeters.

Recycling services: develops outlets and helps customers obtain recycled materials, in compliance with competition rules.

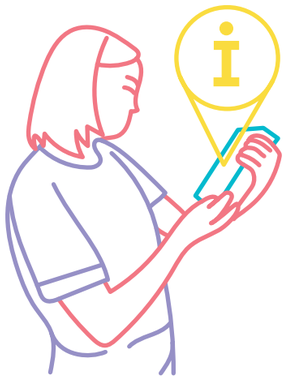
Citeo's regional teams



Two cross-cutting activities:

Customer relations and marketing: ensures the relationship with customers on all aspects, and develops new offers.

Innovation: ensures the sourcing of innovative ideas and projects. Selects and accompanies experiments and companies in their transition to scale up to provide new solutions.



COMMUNICATION, MOBILISATION AND CSR LED BY MARILISE MARCANTONIO

Organised to address five key challenges:

Mobilisation and Commitment: defining solutions to advance the mobilisation and commitment of consumers in sorting waste and responsible consumption, based on knowledge of consumers.

Territorial Communication: implements the territorial communication strategy across all of Citeo's communication activities, in collaboration with the regional teams.

Brand and Digital: defines and manages Citeo's brand strategy. Implements the content and actions for corporate and B2B communication content and actions and ensures its digital presence.

Media and Internal Communication: builds the media relations strategy and defines the company's internal positions with the media, opinion leaders and circles of influence. Facilitates the company's developments through communication by promoting cross-functionality and the commitment of employees.

CSR: defines and supports Citeo's 2020-2025 CSR roadmap, in line with its status as a mission-led business and its purpose, to develop responsible and exemplary conduct, from purchasing policy, human resources and responsible communication.

GENERAL SECRETARY LED BY NICOLAS FURET

With five key activities:

Legal: provides legal security for all of Citeo's activities around a diversity of expertise, from contract to competition law, including public and environmental law.

Institutional Relations: promotes the implementation of a regulatory and legislative framework consistent with the company's strategy. Shares the challenges and impacts of regulatory developments with institutional stakeholders in France and Europe. Supports the deployment of the EPR model internationally.

Digital Factory: co-constructing and developing digital services and solutions with the various business lines to ensure the relationship and role of Citeo with its customers, sorters and local authorities.

Finance and Management: builds the economic trajectory of Citeo and Adelphe, securing the company's future, particularly through risk management and financial flows.

Human Resources: supports managers and employees so that the skills, talents and quality of life at work contribute effectively to the realisation of the company's strategy and development.

ADELPHE, A CITEO SUBSIDIARY

JEAN HORNAIN, MANAGING DIRECTOR, SOPHIE WOLFF, DEPUTY DIRECTOR

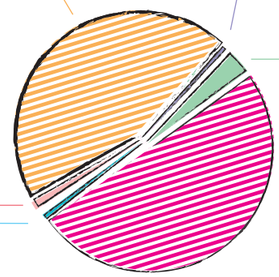
Assists companies in the wine and spirits, pharmaceuticals and bakery sectors to develop their recyclable packaging and CSR approach.

COMMITTED GOVERNANCE

Citeo, which became a mission-led business in November 2020, has a governance structure that brings together companies and stakeholders committed to the same challenges and objectives of accelerating the circular economy of packaging and paper: its shareholders, Board of Directors, Specialised Committee and Mission Committee.

SHAREHOLDERS

Breakdown of Citeo's share capital as at 27 April 2022



Board of Commerce, Distribution and Distance Sales (44.7%)
Including 23 shareholders, companies and federations from the retail sector, distribution and distance sales sector.

Board of Services (1.1%)
Including 5 shareholders, service companies, financial institutions, insurance companies or similar, and any other service activity.

Board of Non-Subjects (0.6%)
Composed of 6 historical shareholders that are not subject to packaging and paper EPR's.

Board of Packaging Sectors (0.5%)
Represented by InterEmballage SA, which includes the material sector organisations in charge of the collection and recovery of household packaging.

Paper and Publishing Board (3%)
Composed of 14 paper and publishing shareholders.

Industry Board (50.1%)
Represented by the company "Ecopar". Company with a capital of €1,752,600, with 194 industrial shareholders, producers and importers of mass-market products, companies as well as professional organisations.

THE MISSION COMMITTEE

As at 30 March 2022

Chaired by Patricia Ricard, the Mission Committee brings together players who are committed to supporting Citeo in implementing its mission and monitoring the achievement of its mission-led business objectives. The Mission Committee submitted its first report to shareholders in June 2022.

BOARD OF ELECTED REPRESENTATIVES

Christophe Bouillon
President of the APVF and Mayor of Barentin

BOARD OF ASSOCIATIONS

Nathalie Boyer
General Delegate of Orée

BOARD OF OPERATORS

Anne Le Guennec
General Manager of Veolia recycling and waste recovery

CLIENT BOARD

Laëtitia Magré
Vice-President of E. Leclerc

BOARD OF QUALIFIED PERSONS

Philippe Moati
Economist and University Professor

Carlos Moreno
Scientist and University Professor

Patricia Ricard
President of the l'Institut Océanographique Paul Richard
President of the Mission Committee

Shu Zhang
President and Chief Executive Officer of Pandobac

EMPLOYEE BOARD

Axel Darut
European and International Affairs Advisor

CITEO BOARD OF DIRECTORS

As at 27 April 2022

On 30 June 2021, the General Meeting of Shareholders revised the Board of Directors.
Its new structure includes 17 directors and one State censor.
Antoine Fiévet was appointed Chairman for 4 years. He succeeds Philippe-Loïc Jacob, who was appointed Honorary Chairman in recognition of his commitment during his thirteen years as a Director, twelve of which as Chairman of the Board of Directors.

INDUSTRY BOARD

Benoist Berton
Strategic Packaging and Circular Economy Director of Coca-Cola Euro Pacific Partners France

Yvan Bonneton
President of Henkel France

François Eyraud
Managing Director, Danone Fresh Products France

Antoine Fiévet
Chairman and CEO of Bel
Chairman of Citeo

Pascal Gilet
Chairman of Heineken France

Bertrand de Senneville
L'Oréal

Pierre Sifflet
D'Aucy

Pierre-Alexandre Teulié
Director of Communication, CSR and Public Affairs at Nestlé France

BOARD OF COMMERCE, DISTRIBUTION AND DISTANCE SALES

Grégory Bouquet
Administrative and Financial Director of La Redoute

Jacques Creyssel
General Delegate of the Federation of Commerce and Distribution

Laurent Francony
Quality Director of the Carrefour France Group

Jean-Marc L'Huillier
Chairman and CEO of Silve

Antoine Pernod
Director of Communications and Foundations of Auchan Retail

Sylvie Vaissaire
Director of Quality, Safety, Social and Environmental Affairs of the Coopérative U Enseigne

BOARD OF PAPER AND PUBLISHERS

Philippe d'Adhémar
Public Affairs Director, Sylvamo France

BOARD OF SERVICES

Florence Roussel-Pollet
Commercial Director of Société Générale Equipment Finance

BOARD OF PACKAGING SECTORS

Jacques Bordat
Chairman of Interemballage

STATE CENSOR

Caroline Montalcino
Head of the General Economic and Financial Control of the "Ecology and Sustainable Development" mission.

In 2021, the Board of Directors reviewed and discussed its strategic issues. The company has focused its strategy for the next 5 years towards more control and impact in the service of its customers' environmental challenges. The Board has regularly followed its strategic plan, which is based on five key areas: improving operational and economic control of the collection, sorting and recycling system, the preparation of future approvals and the reconfiguration of the graphic paper sector; taking into account new obligations; improving operating procedures and interactions with stakeholders to ensure greater inclusion and leadership; the impact of Citeo's R&D and innovation actions; the development of new services and the implementation of necessary means to respond to customers' needs in the short term. In addition, the Board began examining the challenges of the next approvals and their new obligations. Its work also focused on a detailed review of the business, approval of the annual budget and its revisions, review of the financial situation, regular review of the cash flow situation, and the closing of annual accounts and governance issues.

THE SPECIALISED COMMITTEES

As at 27 April 2022

Placed under the authority of the Board of Directors, the Specialised Committees are responsible, in their respective fields, for preparing the work to be done and making recommendations for debate and decision.

STRATEGY & SCALE COMMITTEE

President: Antoine Fiévet.

Members: Benoist Berton, Laurent Francony, Jean-Marc L'Huillier, Antoine Pernod, Florence Roussel-Pollet, Pierre-Alexandre Teulié.

Permanent guests: Caroline Montalcino, Georges Ortola.

The work of the Strategy & Scale Committee focused on the company's vision and major strategic orientations for the 5 years to come. It continued its reflections on the possible evolution of Citeo's field of activity to meet the environmental challenges of its customers, regulatory objectives, public expectations, and those defined by its statutory mission.

It also worked on changes to future approvals.

UPSTREAM-SCALE COMMITTEE - HOUSEHOLD PACKAGING

President: Benoist Berton.

Members: Philippe d'Adhémar, Pascal Gilet, Jean-Marc L'Huillier, Florence Roussel-Pollet.

Permanent guests: Caroline Montalcino.

This Scale Committee has carried out various works to prepare the 2022 household packaging tariff, and more specifically the evolution of the modulation of the UVC tariff. It also examined the eco-modulation criteria for 2022. On the basis of this work, the Committee proposed a 2022 tariff to the Board.

UPSTREAM-SCALE COMMITTEE - PAPERS

President: Grégory Bouquet.

Members: Philippe d'Adhémar, Benoist Berton, Jean-Marc L'Huillier, Florence Roussel-Pollet.

Permanent guests: Caroline Montalcino.

This Committee submitted a proposal for the 2022 tariff for graphic paper to the Board, taking into account the provisions of AGEC law, which abolished the payment of contributions in kind for companies in the press sector. It worked on the eco-modulation criteria for 2022 by proposing the abolition of the Triman bonus due to the obligation to mark Info-tri from 2022, as well as an increase in the mineral oil penalty in accordance with legislation.

AUDIT & RISK MANAGEMENT COMMITTEE

President: Jacques Creyssel.

Members: Philippe d'Adhémar, Grégory Bouquet, Pierre Sifflet, Bertrand de Senneville.

Permanent guests: Meriem Aissaoui, cabinet Mazars, commissaire aux comptes ; Jean-Benoît Monnais, société H3P, commissaire aux comptes ; Caroline Montalcino, State censor.

The work and recommendations of the Audit & Risk Management Committee focused mainly on the 2021 accounts, the impact of the health crisis on Citeo and Adelphe's activities, and the impacts of the AGEC and Climate and Resilience Acts on EPR channels.

RESEARCH & DEVELOPMENT COMMITTEE

Members: Jacques Bordat, François Eyraud, Antoine Fiévet, Laurent Francony, Pierre Sifflet, Sylvie Vaissaire.

Permanent guests: Caroline Montalcino.

This Committee has worked jointly with the Materials Committee on the methodology proposed by Citeo for assessing the recyclability of packaging and on the criterion relating to the existence of a recycling channel. It discussed the criteria of the methodology and participated in discussions on the 2022 eco-modulations for graphic paper. The Committee monitored the 2021 assessment of Citeo's R&D programme, noting that the work undertaken over the past 10 years has led to a clear improvement in the recycling of plastic packaging.

MATERIALS COMMITTEE

President: Laurent Francony.

Members: Yvan Bonneton, Jacques Bordat, Antoine Fiévet, Antoine Pernod, Pierre Sifflet.

Permanent guests: Caroline Montalcino.

The work of the Materials Committee focused mainly on the evolution of tariff modulations for household packaging. The Committee took part in discussions on the 2022 eco-modulations for graphic paper, followed the progress of work on the methodology for calculating recyclability, and discussed the criteria for the methodology.
The Committee also followed the initial work on the standardisation of packaging.

NOMINATIONS & REMUNERATION COMMITTEE

President: Bertrand de Senneville.

Members: Jacques Creyssel, Antoine Fiévet, Antoine Pernod.

Permanent guests: Caroline Montalcino.

The recommendations and work of this Committee concerned the list of candidate Directors proposed by the shareholders, and the profile of the Chairman of the Board of Directors of Citeo. It examined the profiles of the new Directors in the context of the composition of specialisation and worked on the policy of permanent and ad hoc guests. The Committee initiated an analysis of the succession of the Chairman of the Board of Directors of Adelphe, who will reach the legal age limit in December 2022.

ADELPHE, A CITEO SUBSIDIARY

As at 27 April 2022

Adelphe's share capital is EUR 40,000, fully paid up and divided into 400 shares, all of the same class, with a par value of EUR 100. The share capital is held by four shareholders in the following manner:
- 85% by Citeo;
- 14.75% by two associations representing the Wine & Spirits sector;
- 0.25% by a Director.

The Board of Directors is currently made up of eleven Directors, five Censors and one State Censor Georges Ortola is the Chairman of the Board of Directors of Adelphe.

Directors

- Georges Ortola, Chairman of the Board of Directors
- AFED, represented by Michel-Laurent Pinat
- Brasseurs de France, represented by Magali Filhue
- Citeo, represented by Philippe-Loïc Jacob
- CNBPF, represented by Dominique Anract
- Ecopar, represented by Benoist Berton
- Établissements Nicolas, represented by Eudes Morgan de Rivery
- FEEF, represented by Christine Barthe
- LEEM, represented by Andrew Greenwood
- NET V&S France, represented by Patrick Deschamps
- Pierre Fabre SA, represented by Séverine Roullet-Furnemont

Censors

- ANIA, represented by Xavier Arrom
- FCSIV, represented by Jacques Bordat
- FEDEREC, represented by Sébastien Ricard
- FFVA, represented by Augustin Chazal
- SNFL, represented by Thomas Gauthier

State Censor

Head of the General Economic and Financial Control of the "Ecology and Sustainable Development" mission.

In 2021, the Board of Directors reviewed and discussed its strategic issues. It established and followed its roadmap to serve its customers in the following sectors: Wine and Spirits, Medicines, Bakeries and other local food shops. It also followed Adelphe's specific objectives, including its awareness campaign, the strengthening of its partnerships and its working groups in eco-design and R&D. The Board also initiated a carbon neutrality pilot project and various forward-looking working groups. The Board's work also included a detailed review of the business, approval of the annual budget and its revisions, review of the financial situation, as well as regular reviews of the annual accounts and governance issues.

KEY FIGURES 2021

Consolidated by Citeo and Adelphe

HOUSEHOLD PACKAGING

Recycling performance

72%
recycling rate

or

3.8M
tonnes of household packaging recycled

Environmental benefits

2.2M
tonnes of CO_2 avoided thanks to recycled packaging

or equivalent to

1M
less cars on the road

Sorting

54KG
of packaging sorted per inhabitant per year on average, of which:

20KG
were paperboard, steel, aluminium and plastic

34KG
were glass packaging

89%*
Of French people sort their packaging, 51% systematically

41.6M
People are able to sort their packaging thanks to the simplification of sorting (by 31 December 2021)

Goal:

100%
by 2023

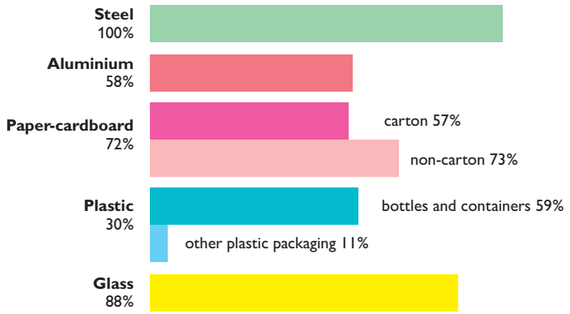
Household packaging: post-Covid rebound and increased sorting

In 2021, 139,000 more tonnes of packaging were recycled than in 2020.
This strong increase can be explained by three main factors:

- Collection and sorting centre activity, which had been slightly impacted by the health crisis, returned to full operation;
- The e-commerce sector remains dynamic to the benefit of cartons, which are well sorted by consumers;
- Inhabitants have sorted and recycled more packaging thanks to the simplification of sorting, which is being rolled out throughout France. The tonnes of recycled plastic packaging that are now sorted in the yellow bin (jars, trays, film, tubes, etc.) are up by 37% compared to 2020.

The recycling rate for packaging is 72%, a record increase of 3 points compared to 2020.
It is increasing for all materials.

Recycling rate by material



M = million(s). BN = billion(s

Rounded figures. Detailed figures in the Citeo/Adelphe 2021 Activity Report, available on citeo.com.

Environmental benefits are calculated using Citeo's life cycle assessment tool, BEE.

General note: the tonnage and recycling rate figures provided correspond to the tonnages marketed and recycled within the Citeo group alone. They do not include the tonnages of customers under contract with another holder.

How are recycling rates calculated?

In France, the recycling rate for household packaging is calculated by dividing the weight of materials entering the recycling process by the quantity placed on the market. The tonnages of metals from bottom ash (solid residues from the incineration of household waste) are also taken into account when extracted for recycling into steel and aluminium.

The recycling rate for graphic paper is calculated by dividing the tonnage of recycled paper from selective collection by the total tonnage of graphic paper collected by the Service public de prévention et de gestion des déchets (SPPGD), in the local authorities under contract.

New rules for calculating recycling rates, common to all member states of the European Union, have been defined and will be implemented in January 2023.

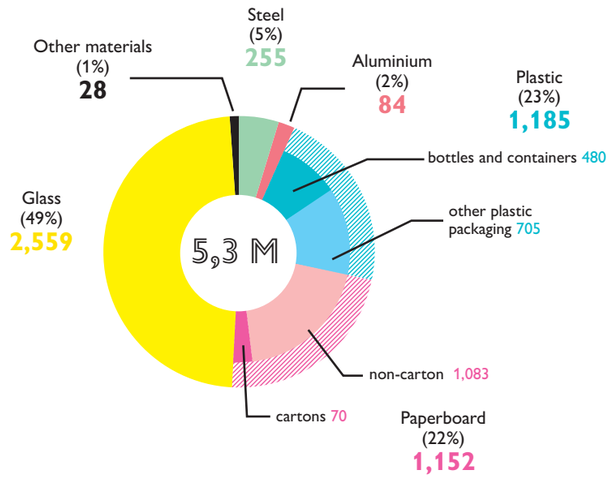
* Observatory on the sorting of packaging and paper, Ipsos for Citeo, 2019.

** Calculated on the basis of the total amount of paper placed on the market and collected by Service public de prévention et de gestion des déchets.

*** Equivalent in Euros of media space made available to Citeo to mobilise on paper sorting and recycling.

Breakdown of the packaging deposits that contribute to financing of the sector

(in thousands of tonnes - rounded figures)



Companies

23,209
Customer contracts

€847M
in contributions for the year

Local authorities

684
local authorities under contract

or

100%
of residents who have access to a packaging sorting system

GRAPHIC PAPERS

Recycling performance

62%**
recycling rate

or

1M
tonnes of paper recycled

Environmental benefits

19BN
litres of water saved thanks to paper recycling

or the equivalent of

6,400
Olympic swimming pools

Sorting

15KG
of paper sorted per person per year on average

87%*
of French people sort their paper, 41% do so systematically

Graphic paper: consumption and tonnes recycled decreasing, but sorting behaviour remains strong

The health crisis is having a strong downward impact on graphic paper (-17.5%) and tonnes recycled (-15,4%). However, the recycling rate increased by 1.5 points, reaching 62%, thanks to the sorting habits of the public.

The figures communicated on graphic paper are calculated on the tonnages put on the market and recycled in 2020.

Companies

3,931
customer contracts

€63.3M
in financial contributions for the year

Paper deposits contributing to financing of the sector

1.1M
tonnes of paper

€14M
in-kind contributions from press publishers for the year***

Local authorities

688
local authorities under contract

or

99.6%
of residents have access to a packaging sorting system

ANALYTICAL PROFIT AND LOSS SUMMARY

HOUSEHOLD PACKAGING

in millions of Euros

	ARC 2020	ARC 2021
Turnover	**798.8**	**831.8**
Cost of contracts with local authorities	**-624.3**	**-649.8**
Other actions for the sector	**-84.9**	**-89.7**
Accompanying measures	-20.5	-20.7
Support for materials recovery	-29.3	-29.6
Awareness-raising actions	-9.9	-10.5
R&D on collection, sorting and recycling	-4.4	-5.3
Eco-design support	-5.6	-6.6
Other actions	-15.2	-17.0
Support for customers and the collection and sorting system	**-9.6**	**-11.4**
Steering and management	**-19.0**	**-21.9**
Total current operating expenses	**-737.9**	**-772.8**
Operating income	**60.9**	**59.0**
Provisions and cost of customer risk	0.5	0.2
Financial result	0.0	0.6
Extraordinary result	0.2	-0.3
Income tax	0.9	1.0
Change in provision for future expenses	**-62.5**	**-60.5**
Net result	**0.0**	**0.0**

The 2021 turnover amounts to €831.8m, up by €32.9m or +4% compared to 2020. It is made up of, on one hand, customer contributions for the 2021 financial year amounting to €847.2m and, on the other 15.5 million in adjustments for previous years.

The cost of contracts with local authorities amounted to €649.8m. There was an increase in support of 25.4 million and an increase in recycled tonnage of +3.8% over this period.

The 2018-2022 cycle of support measures continue to be deployed in 2021. The amount reaches 20.7 million, which is close to the 2020 level.

Support for the recovery of materials (in particular Aid to Remote Areas) amounts to €29.6 million, up 1.1% compared to 2020.

Awareness-raising actions represent €10.5 million, slightly up on 2020.

R&D actions amount to €5.3m, a decrease of €0.9m.

Eco-design support actions represent €6.6M, a slight increase of €1.0M.

Other actions represent €17 million, an increase of €1.8 million, due in particular to the strengthening of DOMCOM actions and new obligations towards ADEME.

Steering and management expenses increased by €2.9m, due in particular to the strengthening of information systems and the change in the allocation key between the graphic paper and household packaging sectors. The provision for future expenses was increased by €60.5 million in order to bring the net result to zero.

GRAPHIC PAPERS

in millions of Euros

	ARC 2020	ARC 2021
Turnover	**89.7**	**62.4**
Cost of contracts with local authorities	**-65.2**	**-57.6**
Other actions for the sector	**-9.8**	**-12.3**
Accompanying measures	-4.3	-6.9
Awareness-raising actions	-3.0	-2.4
R&D on collection, sorting and recycling	-0.4	-0.4
Eco-design support	-0.9	-0.7
Other actions	-1.2	-2.0
Support for customers and the collection and sorting system	**-3.2**	**-3.6**
Steering and management	**-2.5**	**-1.9**
Total current operating expenses	**-80.7**	**-75.5**
Operating income	**9.0**	**-13.0**
Provisions and cost of customer risk	-0.4	0.0
Financial result	0.0	0.1
Extraordinary result	0.5	0.0
Income tax	0.1	0.1
Change in provision for future expenses	**-9.2**	**12.9**
Net result	**0.0**	**0.0**

Reminder: The contributions and expenses of ARC 2021 correspond to the tonnages marketed and recycled in 2020.

The 2021 turnover amounts to €62.4 million, down by €27.3 million or -30% compared to 2020. It is made up of 63.3 million in customer contributions for the 2021 financial year, and 0.9 million for previous years. The drop in turnover is explained by the erosion of contributing tonnages (impact of the health crisis) and the drop in the tariff.

This erosion of the deposit is also reflected in the tons recycled. As a result, the cost of contracts with local authorities falls by €7.1m to €58.0m, or -11% compared to 2020.

Accompanying measures amount to €6.9 million in 2021, up €2.6 million compared to 2020.

Communication, information and awareness-raising actions represent €2.4 million and have been carried out to benefit sorting, notably through initiatives shared with the household packaging sector and through programmes aimed at young people.

R&D actions are stable at €0.4 million in 2021.

Eco-design support actions represent €0.7 million, down €0.3 million from the previous year.

Steering and management expenses amount to €1.9m, i.e., -23% compared to 2020, mainly due to changes in the allocation key between the graphic paper and household packaging sectors.

The provision for future expenses is reduced by €12.9 million in order to bring the net result to zero.

GLOSSARY

Note: the words are highlighted throughout the text of the document.

ABANDONED WASTE

Waste abandoned in the environment improperly, intentionally or negligently, in areas accessible to the public or on private land with or without the consent of the owner. (Source ADEME).

AGEC LAW (FEBRUARY 2020)

The anti-waste and circular economy law aims to accelerate the change in production and consumption models in order to limit waste and preserve natural resources, biodiversity and the climate. Composed of 130 articles, it is divided into five main areas: eradication of disposable plastic; better informing consumers; fighting against waste and for solidarity-based reuse; acting against programmed obsolescence; and better production. It sets new objectives for the coming years. **ecologie.gouv.fr**.

ARTIFICIAL INTELLIGENCE

Theories and techniques implemented with a view to creating machines capable of simulating human intelligence.

BLOCKCHAIN

Technology for storing and transmitting information; transparent, secure, and operates without a central control body.

"BOTTLE-TO-BOTTLE"

A recycling concept that consists of the return to the same product as its first life. This involves, for example PET bottles made from PET bottles.

CALL FOR EXPRESSIONS OF INTEREST (CEI)

A mechanism put in place by a funder for the award of a grant. The funder defines a problem and a framework; funding applicants are invited to present a project within this framework and are free to define the content of their project. The purpose of a CEI is to encourage, identify, select and finance projects that respond to a given problem.

CELLULOSE MICROFIBRILS

A fibre-like structure formed by the assembly of cellulose chains.

CHROMATOGENY

A technology that makes a paper hydrophobic without combining material, by grafting a fatty acid molecule onto a small part of the cellulose molecules that make up the paperboard.

DEVELOPMENT FLOW

The development flow is an industrial programme that creates new waste streams of plastic packaging that has not yet been recycled or is poorly recycled in sorting centres: since 2019, a flow with rigid PS packaging, opaque PET, coloured PET and PET trays, and from 2023 onwards, a second flow of flexible packaging in PP and PE. Collecting, massifying to over sort and finally recycle this packaging by resin in particular encourages the development of recycling channels currently under construction.

DIGITAL WATERMARK

These are postage stamp-sized codes, invisible to the naked eye, which can contain a wealth of information about packaging and their contents.

DO TANK

The Citeo Circular Challenge Do Tank is a method of multi-stakeholder co-construction in 4 phases which facilitates solutions to common problems within a short time: defining the need, thanks to phases of exchanges with experts from different backgrounds; finding ideas and possible solutions in groups using proven creativity techniques; prototyping the best ideas and developing physical or digital prototypes with help from experts; testing the solutions with beta-testers and analysing their feedback to improve them.

ECO-DESIGN

Integration of the environment into the design of products (packaging, goods or services). This is an approach that takes into account the different stages of the product's life cycle.

EDUCATIONAL "STREET INTERVIEWS"

Street interviews are a non-advertised technique where the facilitator and audience don't have a pre organised meeting. When visiting popular areas with major ecological issues, the facilitator visits or walks around the site and calls out to or is called out by the passing public to discuss a topic. This is an innovative technique to raise awareness among a so-called "non-captive" public, i.e., people who have not come to take part in an event. (Source: FRENE.)

EPR

30 years ago, local authorities and consumer companies who founded Citeo and Adelphe organised themselves to implement the principle of Extended Producer Responsibility. This model commits companies producing packaged goods or graphic papers to finance or organise the end-of-life management of said packaging and paper. This mission is now being extended to include support for combatting abandoned waste. EPR has helped to reduce the impact of packaging and paper worldwide, and to make sorting and recycling a part of our daily lives. It has also encouraged activity by promoting the development of a decentralised and sustainable industrial sorting and recycling facility.

ESG CRITERIA

ESG criteria (Environmental, Social and Governance) evaluates the extent to which sustainable development and long-term issues are taken into account in the strategy of economic players (companies, local authorities, etc.). These criteria can be, for example: CO_2 emissions, electricity consumption, waste recycling for the E pillar; quality of social dialogue, employment of disabled persons, employee training for the S pillar; transparency of executive remuneration, the fight against corruption, the percentage of women on Boards of Directors for the G pillar.

EVOH

Ethylene vinyl alcohol. We find EVOH barriers in Bag-in-Box bags.

HDPE

High density polyethylene. Resin plastic mainly used in rigid packaging such as milk or washing liquid bottles.

LDPE

Low density polyethylene. A flexible, stretchable plastic resin, which is used, for example in film or plastic bags.

LIFE CYCLE ASSESSMENT

Standardised, multi-criteria method to measure the environmental impacts of a product throughout its life cycle.

MINERAL OILS

Mineral oils are complex hydrocarbon substances (composed of hydrogen and carbon molecules), produced by the refining of crude oil. They are naturally composed of MOSH (mineral oil saturated hydrocarbons) and MOAH (mineral oil aromatic hydrocarbons). The MOSH's consist of linear, branched and/or cyclic carbon chains, and MOAHs of aromatic compounds. Some of these compounds are identified by the French National Food Safety Agency (ANSES) as likely to have a negative health impact. Furthermore, "C20-C30" refers to compounds with a chain length of between 20 and 30 carbon atoms. Mineral oils are subject to bans under the AGEC law.

MISSION-LED BUSINESS

The Pacte Act introduced in 2019 the status of "mission-led business." In concrete terms, this allows a company to publicly state that it is a "mission-driven" company by specifying its purpose and one or more social and environmental objectives the company will pursue throughout its business. Citeo became a mission-led business in November 2020.

OFFSET/HEATSET

Printing technology with dryer used in particular for leaflets, magazines and catalogues.

NON-HOUSEHOLD CONSUMPTION

Household packaging and paper consumed outside the home: i.e., public spaces such as street or natural areas, or private spaces such as cinemas or stadiums. Citeo and its partners are developing suitable sorting equipment to collect packaging and paper in these environments.

PARTICIPATORY SCIENCES

Collecting reliable data in large quantities is sometimes impossible for scientists. Thanks to simple but rigorous protocols, the public can help in many fields: biodiversity, astronomy, geology archaeology, heritage, etc. And you don't have to be an expert to participate: the programmes are designed so that everyone can make a contribution to research, even without prior knowledge. (Source: MNHN).

PE

Polyethylene (plastic resin).

PEF

Biosourced plastic made from sugars contained in agricultural products such as wheat or beetroot.

PET

Polyethylene terephthalate. The main plastic resin used in most beverage bottles (soft drinks, mineral water, juice, etc.).

PHA

Polyhydroxyalkanoate. Plastic produced from sugar and bacteria.

PLA

Plastic of vegetable origin, made up of lactic acid obtained from agricultural crops, such as corn or sugar cane.

POLLUTER-PAYS PRINCIPLE

Principle stated in Article L. 110-1 of the Code de l'environnement, according to which the costs resulting from measures to prevent, reduce and control pollution must be borne by the polluter. The polluter pays principle was adopted by the OECD in 1972 as an economic principle for allocating the costs associated with pollution control. It is one of the key principles underpinning environmental policies in developed countries.

POLYAMIDE (PA)

Used in grated cheese bags to preserve the product.

POLYMERS

A polymer is a molecule consisting of a chain of similar and repeating molecules, called monomers. The materials have unique properties, depending on the type of molecules bonded and the way they are bonded. In everyday language, it is common to use the term 'plastics' to refer to polymers.

POLYOLEFINS

Polyolefins are the largest family of plastics. They include polyethylene (LDPE, MDPE, HDPE and UHMWPE), polypropylenes (homopolymer and copolymer), polyvinyl chloride (PVC) and superchlorinated polyvinyl chloride (PVC-C).

PP

Polypropylene. In its flexible or rigid form, it is a plastic resin widely used in packaging (chocolate bars, food containers, etc.).

PROJECT METAL

A project that paved the way for a dedicated recycling stream for light aluminium and steel packaging by simplifying the sorting instructions, adapting the processes in sorting centres to capture this packaging, and the identification of a new recycling technology for light aluminium packaging: pyrolysis. The project is supported by CELAA (Club de l'emballage léger en aluminium et en acier), the Association of French Mayors, Nespresso, Citeo and Adelphe.

PS

Polystyrene. Plastic resin found in its expanded form (cushioning/dunnage elements, Styrofoam or plastic crates, etc.), in its foamed form (poultry trays) or in its "classic" form in some food packaging (e.g., egg cartons), but especially for fresh dairy products (yoghurts, fresh cream, etc.).

PYROLYSE

For plastic packaging: a technique that consists of heating around 400 degrees in the absence of oxygen to break the molecule chains and produce a pyrolysis oil. For aluminium packaging: a technique that involves heating the packaging to a temperature of 500-550°C in an oxygen-deficient atmosphere to prevent the aluminium from melting. The organic products (varnishes, lacquers or plastics) are broken down into light products. They are then burnt, while the aluminium remains intact (which would not be the case in the circuit). Pyrolysis produces granulates, powders or fragments of packaging.

REUSABLE PACKAGING

Packaging that has been designed, created and put on the market to be able to make several trips during its life cycle by being refilled or reused for the same purpose for which it was designed.

REVERSE VENDING MACHINE (RVM)

A Reverse Vending Machine is a machine that recovers the empty beverage containers that consumers bring back, such as bottles and cans, for recycling or reuse.

rPE

Recycled PE.

SIMPLIFICATION OF SORTING

Tested in 2011 and being deployed throughout France since 2014, the simplification of sorting process consists of extending the national sorting instructions to all packaging. Thus, residents can gradually put all plastic packaging in the yellow bin (bottles and containers but also pots, trays, film, bags, tubes, etc.), as well as paperboard and metal (glass packaging recycled in a separate bin). Nearly two in three French people, i.e., 41.6 million people, are affected by the simplification of sorting. 100% of them will be by 2023.

SiOx

Silicon oxide, a water and gas barrier material.

SUPERCRITICAL CO_2

A fluid is said to be supercritical when it is placed under conditions of temperature and pressure above its critical point. Supercritical fluids have a viscosity close to that of gases, a density close to that of liquids, and high diffusivity. Many supercritical fluids are studied, in particular water and propane, but most commonly CO2. With a low critical temperature (31°C), it is the leading industrial supercritical fluid: it allows the development of low temperature processes for heat-sensitive products. It has many properties that make it a solvent of choice: odourless, chemically inert, non-flammable, etc.

Citeo
50, boulevard Haussmann
75009 Paris
Tel: 01 81 69 06 00
www.citeo.com

Steering
Citeo's Communication, Mobilisation and CSR Department

Design, creation and co-editing
bearideas

Photo credit
Magnum Photos /Patrick Zachmann
We are the good children /Geoffroy Petit
Tendance Floue /Gilles Coulon
Tendance Floue /Morgan Fache
Imprimerie Roto France
Magnum Photos /Mark Power
Magnum Photos /Jonas Bendiksen
Incendies
European Brands Association
Pellenc ST
Getty Images

Published in June 2022.

Year after year, month after month, everyone is aware of the ecological and climatic emergency.

Going further and faster in the transition of our economy and lifestyles is at the heart of Citeo's mission.

For 30 years, thanks to our expertise, research, actions and our financing capacity, we have been committed to working alongside businesses, the public and territories to help economic players produce, distribute and consume while protecting our planet's resources, biodiversity and climate. This is our purpose.

This period has shaped our knowledge and actions.
In the 2021-2022 edition of our annual report, we highlight the expertise, achievements and results that enable us to imagine a more sustainable world.

New behaviours, objects, materials, technologies, challenges and players: let yourself be inspired by our actions and the actions of those who are accelerating the transition towards a circular society. #moreweknowbetterwedo

CITEO
Together, let's give our products a new life.
citeo.com

adelphe
Subsidiary of Citeo
adelphe.fr