ECO-SYSTEM

LANDE

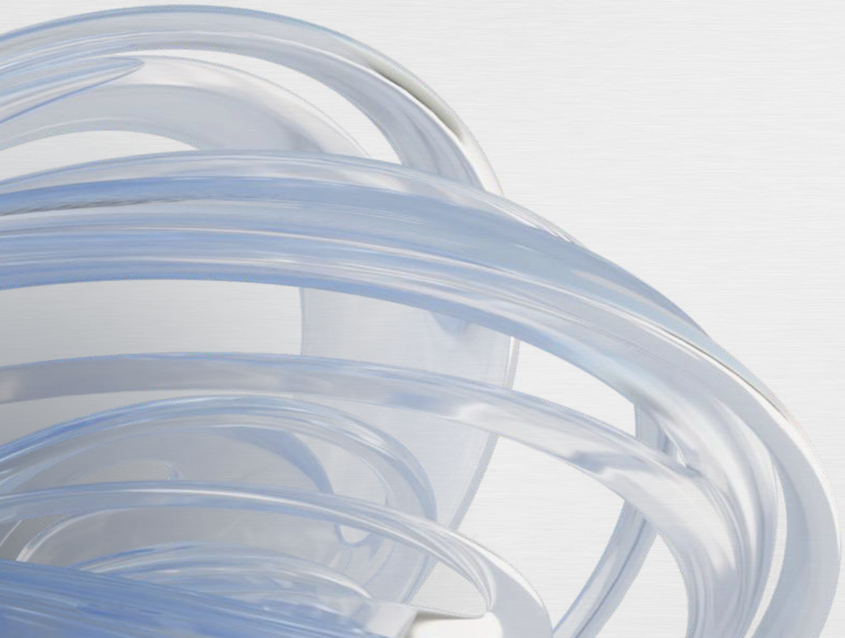
The future of efficient consumption has arrived

LANDE.COM

R&D&I AT LANDE

INNOVATION, DEVELOPMENT AND SUSTAINABILITY

At LANDE, we innovate and develop new support systems that are more efficient and environmentally friendly, driving the future of sustainability with solutions that make a difference.



MISSION

COMMITMENT, PROGRESS AND SUSTAINABILITY

At LANDE, our mission is to develop solutions that combine **efficiency, safety, and respect for the environment**, promoting a more responsible and sustainable hospitality model.

Key objectives to optimize our systems and products:

- **Less plastic**: Significant reduction in weight and the use of unnecessary plastics, prioritizing recyclable and durable materials.
- **Greater safety**: Guests cannot access or view the remaining contents, ensuring hygiene and complete control.
- **Higher efficiency**: The inner bag design allows full emptying of the container, optimizing product use and reducing waste.
- **Cost optimization**: More sustainable and cost-effective processes, without compromising quality in the guest experience.

We innovate today to build a more efficient, safe, and sustainable future.

EXCELLENCE AND CONTROL IN EVERY DETAIL

Plastic reduction of up to 70%

Less cross-contamination

Operational efficiency

Maximum product utilization

Comprehensive sustainability

Full traceability

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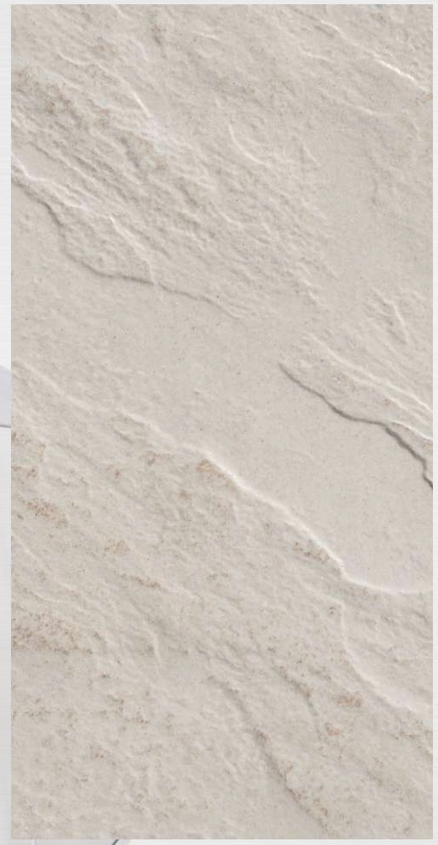
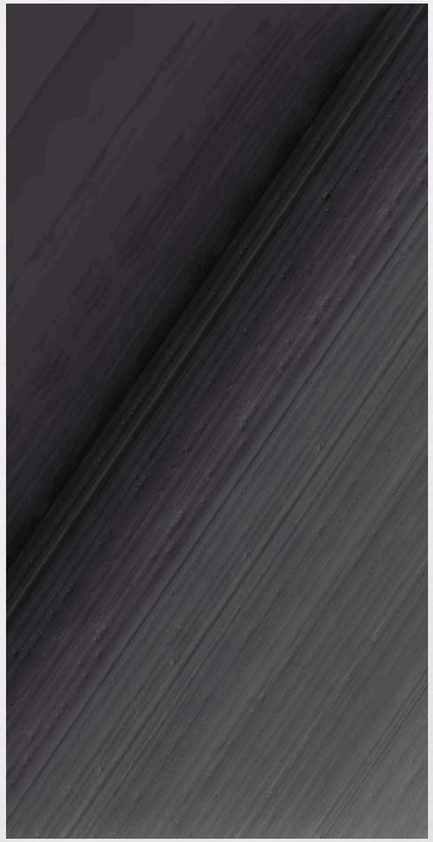
DISPENSER MATERIALS

ABS



CERAMIC



ALUMINUM

RESIN

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OPENING SYSTEM

- **Magnetic opening**: Magnetic technology for quick and effortless access.
- **Easier and more practical**: Optimizes the experience with an intuitive and efficient system.

Simplify use with advanced technology and ergonomic design.

EASY OPEN SYSTEM

WATCH ECOSYSTEM VIDEO

ECOSYSTEM MECHANISM VIDEO

An intuitive, efficient system designed for staff convenience.

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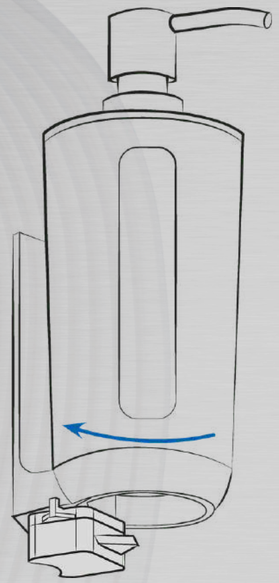
OPERATION

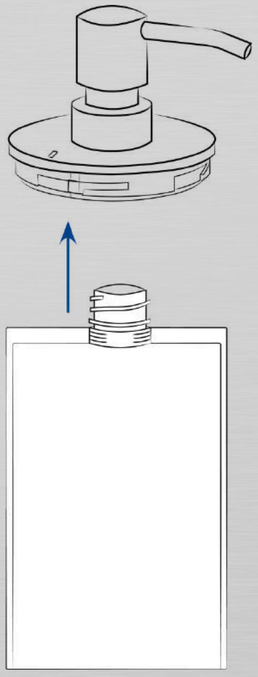
EASY, QUICK AND EFFORTLESS

With a simple gesture and the key, hotel staff can:



VIEW CONTAINER CONTENTS

By turning the dispenser effortlessly



REPLACE EMPTY CONTAINER WITH A NEW ONE

Open and access the interior of the dispenser

An intuitive, efficient system designed for staff convenience

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POUCH VS. BOTTLE

NOT ALL PACKAGING RECYCLES THE SAME

The design of the packaging determines its real recyclability. Monomaterials simplify the process, reduce complexity, and increase the chances for the material to return to the circular economy. Comparing monomaterial packaging with multimaterial formats shows how small design decisions can generate major differences in sustainability.

MONOMATERIAL PE

Real and direct recyclability

100% recyclable

High efficiency in recycling plants

Complies with PPWR 2030

Low environmental impact

Lower operational cost

Simple communication

Stable recycled value

PET + MULTIMATERIAL LABEL

Limited recyclability

Classification issues

Regulatory penalties

Higher impact due to rejected material

Higher costs

Consumer confusion

Design better today to recycle better tomorrow

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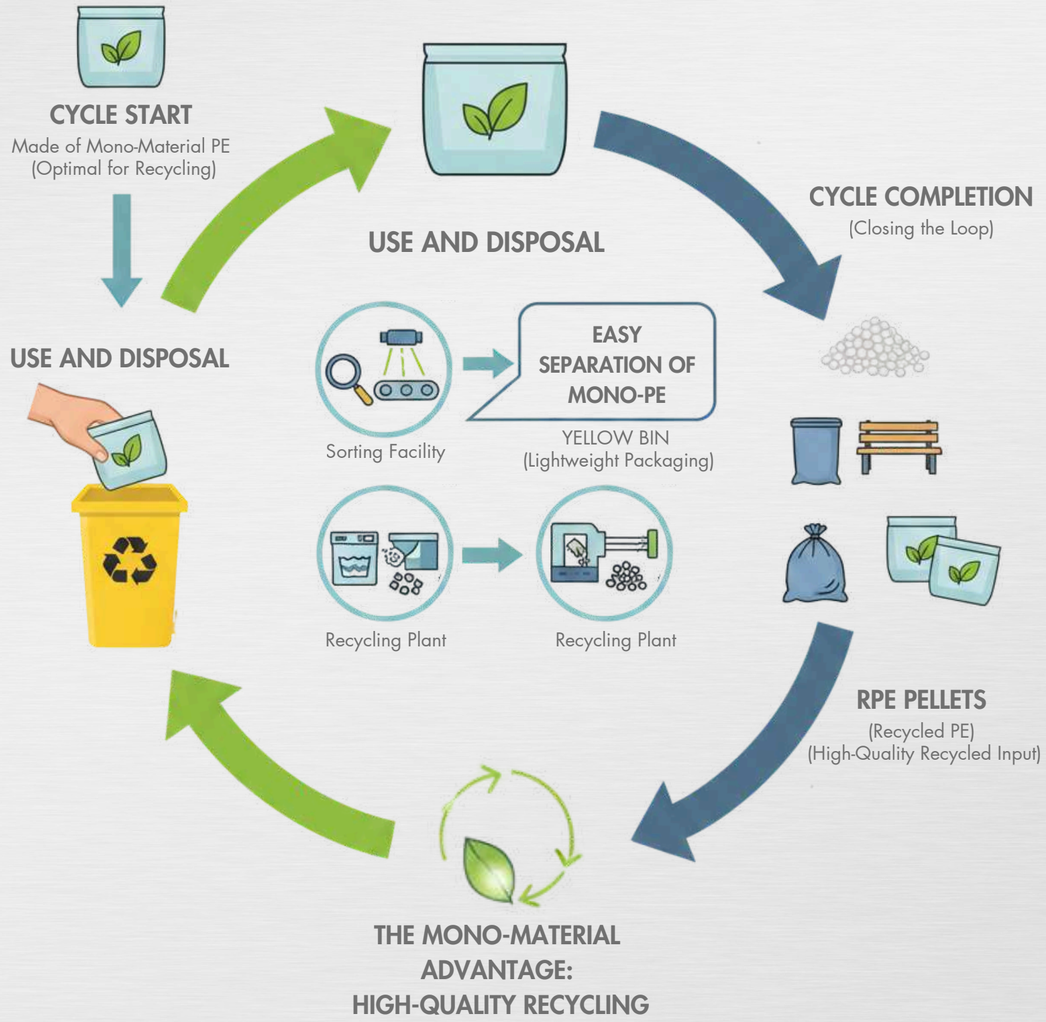
CIRCULAR RECYCLING CYCLE

MONO-MATERIAL PE POUCH

Using mono-material PE is crucial because it allows simplified sorting and a high-quality recycled material.



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RECYCLABILITY ASSESSMENT TABLE

Recyclability Criterion	1. Mono-Material Transparent PE Pouch (9g / 300ml)	2. rPET Bottle (26.4g) with Screen Printing and Multi-material Pump	3. rPET Bottle (26.4g) with PP Label and Multi-material Pump
Real Recyclability	Recycled in a single stream as flexible PE. The mono-material design ensures the maximum possibility of effective recycling.	Screen printing ink acts as a contaminant that makes PET reprocessing difficult. If the ink does not detach, the package is diverted to reject or contaminates the stream.	The PP label, adhesives, and multi-material pump are contaminants. If the label does not separate, the package is incorrectly sorted or severely contaminates the rPET.
Efficiency in Plants	Excellent. Stable and widely accepted stream. Precise classification as PE film.	Printing may impede the exact optical recognition of PET, causing sorting errors or visible contamination in the rPET.	The main problem is the adhesive: if it is not soluble, fragments will contaminate the PET flakes. The presence of PP degrades quality.
Compliance with European Regulation (PPWR)	Highest Alignment. Fully aligned with the priority of mono-material packaging and increasing real effective recyclability (2030).	Medium Alignment. Meets the recycled content requirement (rPET), but screen printing acts as a "design contaminant" that reduces the certified recyclability score.	Low Alignment. Meets the recycled content requirement (rPET), but the use of incompatible polymer labels (PP) drastically reduces the certified degree of recyclability.
Environmental Impact	Higher probability of being recycled and reincorporated into the circular economy. Lower carbon footprint by increasing the material recovery rate.	The risk of contamination reduces the volume of usable rPET, increasing the probability that the bottle ends up in a landfill or incinerated.	The high risk of contamination and rejection increases the loss of potentially recyclable material, reducing circular efficiency.
Operational and Management Costs	Low Complexity. Lower costs associated with material compatibility analysis. Simple message for the consumer.	Medium Complexity. Requires verification that the screen-printing ink is compatible with the hot wash process for PET.	High Complexity. Requires labels with "wash-off" adhesives or compatible label designs, which increases cost and the need for audits.
Consumer Experience	Simple message: "Recyclable packaging in the yellow bin." Maximum clarity.	The consumer must manually separate the multi-material pump. Screen printing does not directly influence the recycling action.	The consumer must manually separate the multi-material pump. May generate doubts about whether they should remove the label before recycling.
Economic Value of Recycled Material	High-Value rPE. Transparency (absence of pigments) allows the recycled material to be reused in high-demand films.	Lower-Value rPET. Contamination from the ink may require the rPET to be allocated to colored or lower-purity applications, reducing its commercial value.	Low-Value rPET. Contamination by PP and adhesives degrades the purity of rPET, limiting its use to low-grade applications or textile fibers.
Effective Recyclability Percentage	High (Optimal). Sorting technologies achieve very high recovery rates as it is a single, clean, and transparent polymer.	Medium-Low. The difficulty of detaching the ink during washing reduces the recovery rate of clean PET.	Low. The presence of an incompatible polymer (PP) causes rejection or contamination, significantly decreasing the effective recyclability rate.
Use of Recycled Content	Reincorporation of clean rPE is relatively easy, allowing for high percentages of recycled content in new pouches (if not for food contact).	The inclusion of rPET in new bottles is limited by the level of purity required (especially for transparent ones).	Contamination limits the use of the resulting rPET to very low-demand applications, making it difficult to close the loop on PET packaging.
Design for Reuse	Limited Potential. Its flexible format is oriented towards recycling.	Limited & Conditional Potential: Reuse in the cosmetics industry is hindered by the lack of post-consumer material traceability. This makes it impossible to meet safety regulations for materials in contact with products, which are as strict as food-grade standards.	Limited & Conditional Potential: Reuse in the cosmetics industry is hindered by the lack of post-consumer material traceability. This makes it impossible to meet safety regulations for materials in contact with products, which are as strict as food-grade standards.
Need for Specific Infrastructure	Low. The infrastructure for recycling flexible polyolefins (PE) is established.	Medium. Requires advanced hot wash equipment to attempt to detach the screen-printing ink.	Medium-High. Requires specific flotation separation technologies to separate lower-density polymers (PP/PE) from PET and requires soluble adhesives.

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ECO-FRIENDLY

Our **ECO-SYSTEM** significantly reduces plastic use thanks to its **monomaterial and ultralight** design. Compared to traditional dispensers, it greatly decreases the weight of the material used, eliminating unnecessary components and making recycling easier.

AMENITIES
30ML

PET BOTTLE **7,25 gr** + PP CAP **5,5 gr** = TOTAL **12,75 gr** > DIFFERENT MATERIALS

DISPENSER
300ML

PET BOTTLE **26 gr** + PP CAP **3 gr** = TOTAL **29 gr** > DIFFERENT MATERIALS

REFILL
5L

PET BOTTLE **155 gr** + PP CAP **4,3 gr** = TOTAL **159,3 gr** > DIFFERENT MATERIALS

ECOSYSTEM
360ML

> PE **9 gr** + WITHOUT CAP **0 gr** = TOTAL **9 gr** > **MONOMATERIAL**

-74%

less plastic than a traditional dispenser

Less waste, more efficiency, greater commitment to the planet

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WEIGHT REDUCTION

Our **ECO-SYSTEM 300ML** reduces plastic weight by up to 74% compared to traditional formats, optimizing material use without compromising functionality. Its innovative design **minimizes waste and maximizes efficiency**, offering a lighter, more sustainable, and eco-friendly solution.

AMENITIES
30ML

0,43 ml/gr

DISPENSER
300ML

0,10 ml/gr

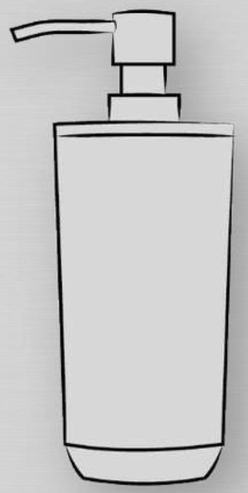
REFILL
5L

0,032 ml/gr

0,030 ml/gr → REDUCTION **-94%**

0,030 ml/gr → REDUCTION **-74%**

0,030 ml/gr → REDUCTION **-22%**



ECOSYSTEM
360ML

0,025 ml/gr

Less weight, more sustainability

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LIQUID WASTE

AMENITIES
30ML

30%
WASTE

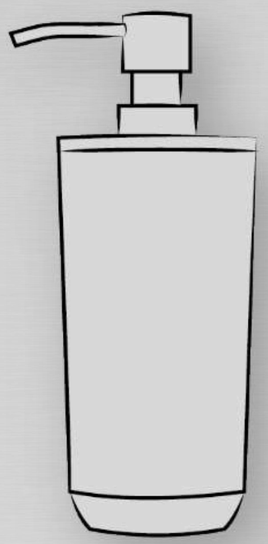
DISPENSER
300ML

10%
WASTE

REFILL
5L

15%
WASTE

Lower percentage of liquid waste



ECOSYSTEM
360ML

2% WASTE

-80%

less than a traditional dispenser

LOW RISK OF
CONTAMINATION

CROSS CONTAMINATION

AMENITIES
30ML

LOW RISK OF
CONTAMINATION

DISPENSER
300ML

LOW RISK OF
CONTAMINATION

REFILL
5L

HIGH RISK OF MICROBIOLOGICAL CONTAMINATION DUE TO EXPOSURE TO THE ENVIRONMENT AND OTHER CONTAMINANTS

Lower product contamination risk

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ECO-SYSTEM

TECHNOLOGY TO REDUCE PLASTIC AND WASTE

The goal of Ecosystem is to **reduce plastic** use in hospitality products without compromising quality, functionality, or guest experience.

Developed with **proprietary patented technology**, Ecosystem provides a system of **refillable, durable, and easy-to-open containers** that allow for reuse and optimized material consumption.
Its smart design combines **ergonomics**, **durability**, **and aesthetics**, ensuring a practical and sustainable experience for both hotels and end users.

Thanks to this innovation, *we minimize waste, improve consumption traceability, and significantly reduce the environmental footprint* in hotel establishments.

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