CHRYSALIS, THE APPROACH

Environment.

CHRYSALIS

Approach
ENVIRONMENTAL
& societal approach

Chrysalis, like any young SME, spontaneously integrates key environmental points and gradually builds a certified approach.

In March 2022, the company obtained the second level of ISO 14001, a first step towards a complete environmental management system.

It thus undertakes to:

I Meet all environmental compliance obligations

I Continuous improvement of environmental practices and performance

I **ADOPT** the most responsible attitude towards any environmental impact

I **PREVENT** any risk of environmental pollution

I **REDUCE** the consumption of its main natural resources (water, gas, electricity)

I **MANAGE AND REDUCE** waste, systematically seeking to recycle whenever possible

I **ELIMINATE** or otherwise reduce the use of any environmentally hazardous substances.

I **USE** the shortest possible circuits (reduction of the carbon footprint)

These commitments are reflected in the 4 points developed below:

Design

From the product design stage

Transport & packaging

In transport and packaging

Recycling

In a recycling-friendly organisation

Involvement societal

In a desire to to integrate a societal logic to our measure

Better lighting.

Our motto: Better lighting thanks to LED technology. In this mission, Chrysalis is supported on a daily basis by the know-how of an internal laboratory, which ensures the efficiency and precision of our lighting.

Laboratoire sur le site de Custines

A 100% LED product offer:

Chrysalis dedicates its entire product range to LEDs.

THE LED IS :

80% savings

The luminous efficiency of LED technology allows for energy savings of up to 80%.

Optimisation of light points

The use of LEDs also allows us to propose a modular lighting offer with, among other things, the possibility of instantaneous switching on and off and variations in the flux emitted according to human activity.

Less light pollution

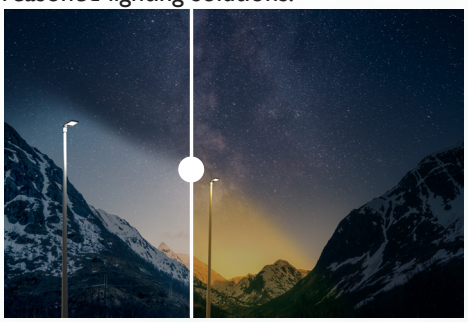
LED optics are also more efficient, allowing us to reduce the environmental impact by optimising the volume of light points. They allow us to offer a wide variety of lenses for the same luminaire, depending on the type of road to be lit, in order to meet the different uses.

Choice of temperatures

A wide range of colour temperatures: from 1800°K to 3000°K, depending on the use, to respect the environment in which it is installed.

Our innovative developments :

By relying on the new technologies available, we base our development approach on reasoned lighting solutions.



Temperature mixing in a single luminaire

Since the impact of a luminaire lies in its use on site, we have developed solutions for mixing colour temperatures. These solutions allow us to offer lighting adapted to human activity and to limit the negative impact on fauna and flora generated by the blue light of LEDs.

In this respect, in order to optimise the lighting of our products according to the use of the site, we adjust to the real needs of the project. The requirement of the decree to limit the quantity of light on the surface to be illuminated according to the situation of the project (surface density) is integrated into our photometric considerations.

our entire product range meets the requirements of the decree on on light pollution.
ULR < 1%,
ULR < 4% (in situ)
code CIE flows 3 > 95%

Manufacturing & design.

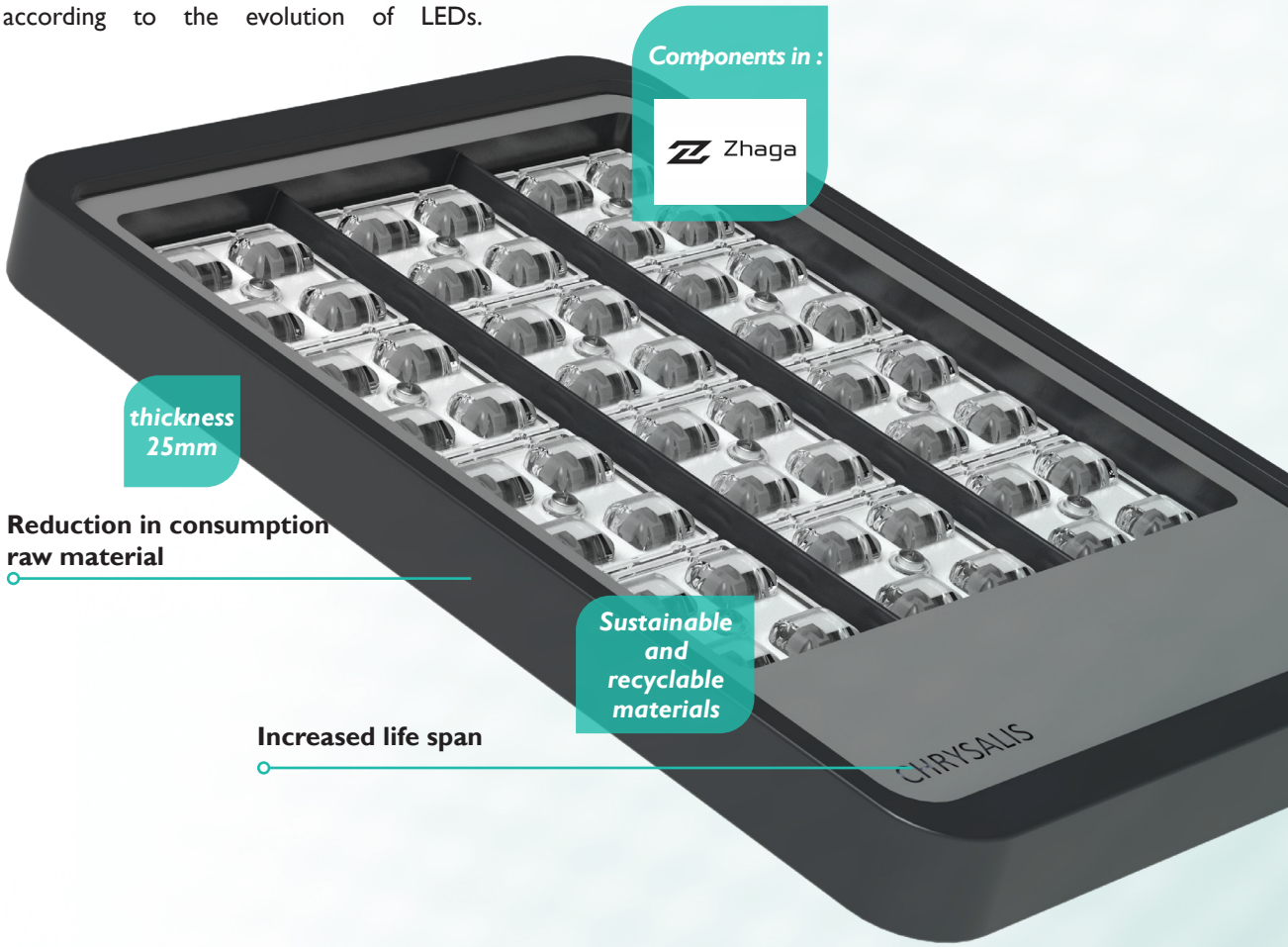
I Technology, Maintainability and Increased Lifetime :

Our design office is constantly working on improving our products with a view to reducing operating costs, avoiding obsolescence and ensuring the maintainability of our products by using sustainable and recyclable materials such as aluminium and glass. The use of Zhaga format components also allows us to meet the technological requirements of the market (intelligent management of luminaires, remote management, communication, etc.) and to avoid the obsolescence of our products by keeping them permanently at the cutting edge of technology according to the evolution of LEDs.

I Reduction of raw material consumed :

Reduced luminaire volumes, lighter decorations on brackets, supports adapted in size.

By relying on the performance of LEDs, Chrysalis designs its products around the smallest possible volume to meet all uses.



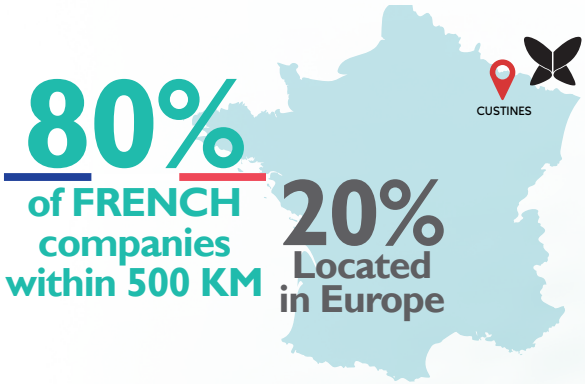
Manufacturing & design.

CHOICE OF SUBCONTRACTING & FOUNDRY

Chrysalis' industrial activity is developed exclusively on the Custines site in France. Chrysalis products are designed, manufactured and assembled on this site.

We work in particular with a subcontractor for laser cutting and with a company whose paint line is located in the Custines industrial zone.

Our subcontractors are :



Foundry

Aluminium foaming

Foundry

Seals

Sheet metal work

Foundry

Aluminium tube

LED

Electronic safeguards

Optics

Powder coating

Water consumption at the Custines site :

- No water used in the manufacture of products
- No watering for the 2500M2 of outdoor green spaces
- No use of pesticides.

Provenance of the model presented.

Remote switchgear.

Whenever possible, the control gear is mounted in an IP66 Chrysabox (CBX) housing the LED driver.
This is installed at the foot of the mast, which offers many advantages

I ECONOMIE & MAINTENANCE :
More economical intervention without the need for a boom lift
Reduced environmental impact of maintenance by :

- Removing the basket
- **Reducing driver intervention time**

I EASE & OPTIMIZATION :
Easy maintenance on the CBX at the base of the mast instead of at the top of the luminaire.
A SCX (Wind Grip) and the weight of the luminaire reduced allowing optimising the support.

I SECURITY : Safer maintenance for the operator, as the **basket is no longer needed.**
A secure optical unit, as there is no longer any intervention on it.

| SYSTEM LONGEVITY :
The safety chain, which incorporates additional protection positioned between the luminaire and the driver, ensures a long service life for electronic products.

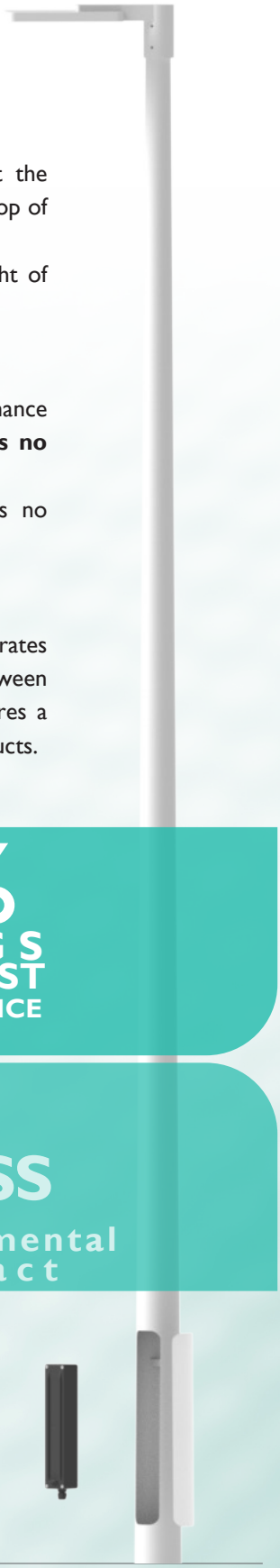
ECONOMY & ENVIRONMENT

MAINTENANCE OF USER SERVICE

OPTIMISED LONGEVITY

80%
SAVINGS ON THE COST OF MAINTENANCE

LESS of materials
LESS environmental impact



The box (Chrysabox).

The IP 66 Chrysabox houses the LED driver at the foot of the mast.

LED 20 YEARS LIFETIME

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No maintenance on the luminaire

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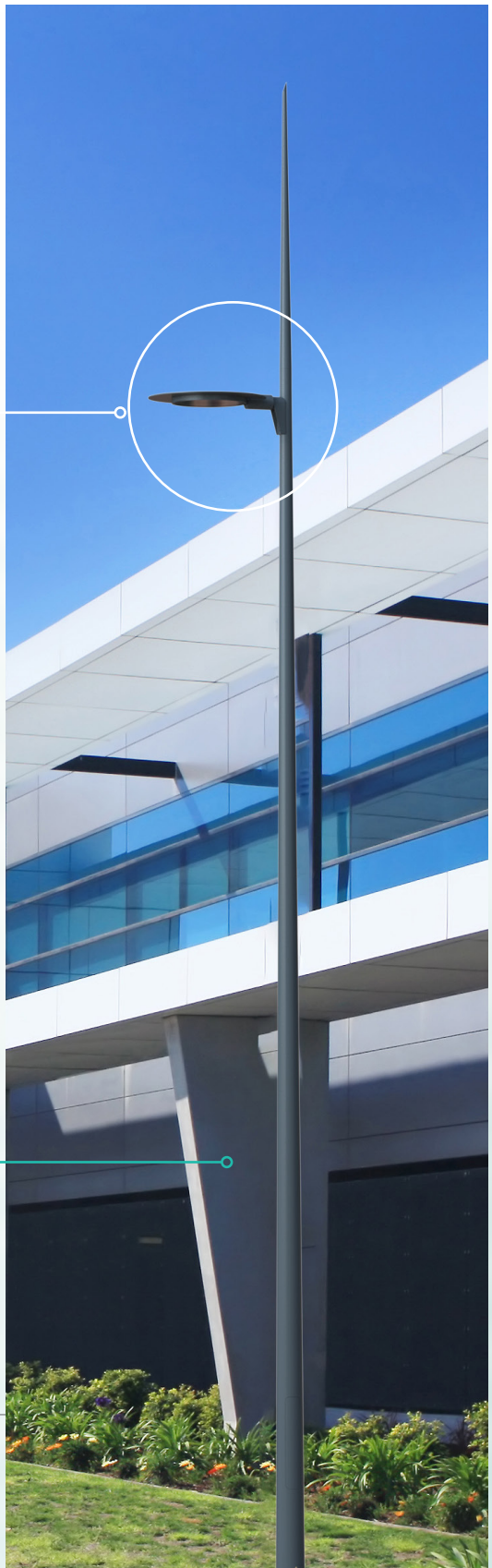
No basket



CHRYSABOX

LED driver protected against over-voltage up to 10KV. Housed in the Chrysabox.

Packaging.

Packaging

• The cardboard used by CHRYSALIS to pack the products contains more than 50% recycled material.

• The raw material used for the textile socks used to pack the supports and brackets is 100% recycled and recyclable.

• The pallets are recycled pallets, made of white wood from sustainably managed forests.

Volume of packaging

• Chrysalis has developed packaging adapted to the format of the luminaires. Depending on the model, its volume and weight, we group several luminaires together in a box in order to limit packaging consumption.

• We do not use plastic. Our cartons have a flap, and the cushioning is made from cardboard scraps.

PACKAGING OF OUR LUMINAIRES (EXAMPLE WITH THE FABIO LUMINAIRE)

PACKAGING TEXTILE SOCK

Transport.

Downstream transport is carried out by road and optimised by multi-sector grouping

90%

of deliveries are made in mainland France and 10% are exported by ship.

Restoration.

Always with a view to respecting the environment, Chrysalis offers a Restoration service.

This involves dismantling the traditional lighting and replacing it with the new technology, including repainting the equipment.

Retrofitting allows a product to be rebuilt almost ex-factory, with a perceived quality and lifespan comparable to a new manufacture, while keeping 90% to 100% of its original structure.

Restoration counteracts the obsolescence of the product, bringing it back to life with new generations of technology.

RETROFITTING TRIPLE SOURCES & RESTORATION OF LANTERNS

| Recycling.

In accordance with the WEEE regulations, Chrysalis contributes to Recylum, which enables the collection and dismantling of end-of-life products.

Through partners ENVIE and TTM, manufacturing waste is collected, sorted and recycled:

- Scrap metals, metal shavings, wood and cardboard
- Hazardous waste (Eco system)

Within the offices, selective sorting is practiced.

Our Lolita foundries are the result of a second fusion.

Societal implications.

Rescue French know-how

Job retention

I Chrysalis was born out of a fierce desire to maintain French know-how in an industrial site that Philips was destined to close. The Marchal family invested and took over the assets in 2016.

I **Constant development.** Employment remains at the heart of the development of the business. As proof, Chrysalys has increased the number of employees by 400% from 2016 to 2021 and does not intend to stop there!

I **Our business is based on a principle of fairness.** We establish local subcontracting partnerships: 80% of our collaborations are with long-standing partners of 3EI's activity.

I **A training logic :** Work experience and internships are part of our culture, and we open an average of 3 positions per year. We have developed partnerships with Epitech, the Lycée Technique Pompey, the Lycée Pierre de Coubertin Nancy, the Faculté des Sciences Nancy and the ICN (ICN Business School ARTEM, Ecole de Management)

I **Customization :** Through a meccano system, Chrysalis is developing a low-cost (economic and ecological) customisation concept. In this way, it seeks to respect regional diversity and the culture of the project.

In this way, Chrysalis wishes to participate in the enhancement of collective spaces.

I **Cultural partner :** In 2021 we supported a major art project in Stasbourg: Industrie Magnifique - a meeting of art and industry in the public square.

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