

## OUR HOME

Our sole factory is based in the heart of the Black Forest, South West Germany. Surrounded by stunning nature of dense forest, rivers and mountains, our mindset towards **nature** and the long term coexistence with it, is deeply rooted in our principles and of **highest importance**.

## OUR ALTERNATIVE

**ALAMAR** is our own **zero waste** alternative material produced entirely in house. Based on **100% recyclable** resin, any cut-offs are re-integrated in the next production cycles. Customizable in various natural optics such as glass and marble, Alamar is much lighter in weight and only requires a fraction of our **renewable energy** usage.

## OUR PROMISE

Our core **values** of delivering highest **quality** and **flexibility** in our services, whilst reducing our **carbon footprint** is being applied to and achieved through our entire supply chain. Over 70 % of our suppliers are within our **local community** reach, who share these values with us.

cristallux®

# THE ART OF LIGHTING

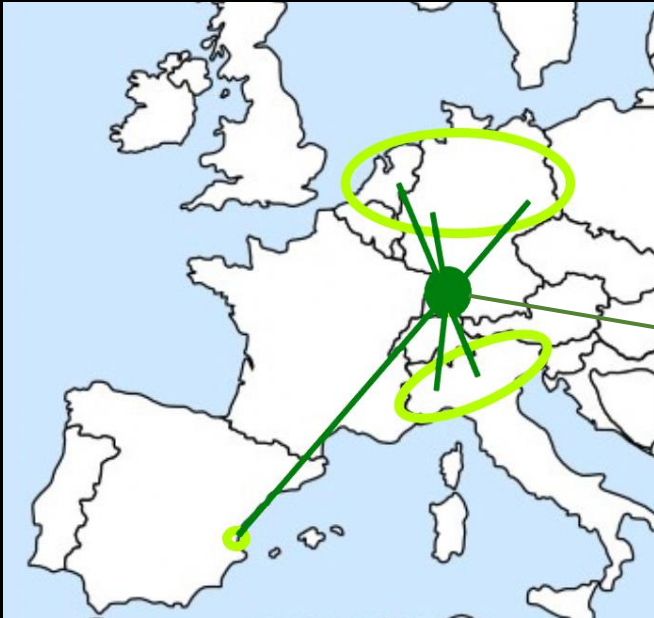
## Our Philosophy of Sustainability

2023



Cristallux and its sole factory is based in the heart of the Black Forest in the south west of Germany. Located in the small village of Oberwaldach, the factory is surrounded by stunning nature of dense pine tree forest and little rivers. Our mindset towards nature and the long term coexistence with it, is of the highest importance to us. Cristallux has been focusing on all areas of sustainability – socially, environmentally, and economically since our beginning in 1961. We challenged to improve each aspect throughout our history and strive to further reduce our carbon foot print, develop and support our local communities and innovate with greener technologies.





Cristallux's promise has always been to supply highest quality made in Germany. Through developments and investments into our machinery park and facilities, we produce as much as possible in house in our sole factory in Germany. Our supply chain has been built around our core values: Highest quality, flexibility and sustainability.

Over **70%** of our suppliers are based **within a 65 km** radius, mainly other family businesses, who share the same values as us. The furthest regular supplier is an old family friend for over 30 years, based in Spain, which keeps our entire supply chain within Europe and provides massive advantages in terms of flexibility, quality control and a **reduced carbon foot print**.

Next to supporting local businesses, Cristallux is highly involved in various local engagement projects. Whether its sponsoring sport clubs, activities, opening our doors for school and kindergarten classes or offering local farmers the possibility to house their cattle on our company premises.



## Our zero-waste Alternative - Alamar



Property	ALAMAR	Glass	
Melt Temperature	210 - 249 °C (410-480 °F)	1500 - 1700°C (2700–3100°F)	The <b>melt temperature</b> defines a condition in which the solid and liquid can exist in equilibrium. This temperature is needed when moulding, forming and producing both materials.
Specific Gravity	1.04	2.4 - 2.8	Alamar has less than half of the density of glass. Hence same size objects are naturally less than half the weight.
Thermal conductivity	0.12 W/m.K	1 W/m.K	Alamar is the better insulator, while glass is 8 times more conductive.
Specific heat capacity	1110 J/kg°C	840 J/kg°C	Alamar takes more heat energy per kg to increase in temperature. However, the combination of lower conductivity and higher specific heat, loses considerably less energy.
Thermal energy change for 1kg to hit average melting temperature:  Mass x specific heat x change in temperature	254.190 J  254 KJ	1.344.000 J  1.344 KJ	Because of the low melting point of Alamar, <b>only 18% of energy is required for producing and processing Alamar</b> compared to glass.



Zero waste



100% recyclable



Only 18% of energy usage



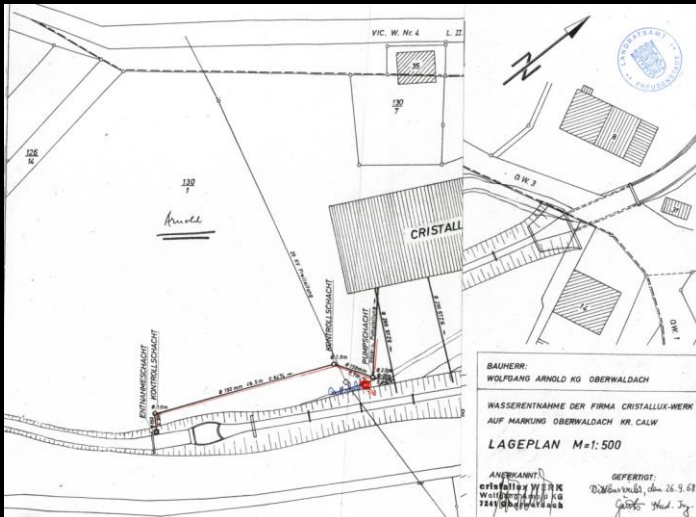
More durable

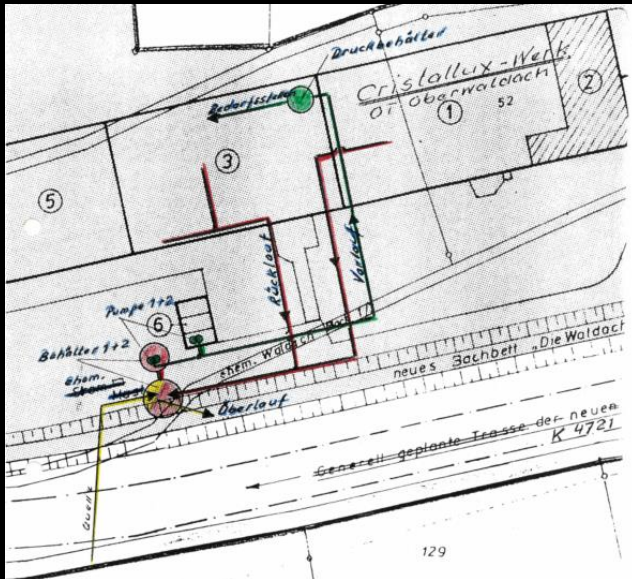
Cristallux produces it's own, IMO approved, **zero waste**, alternative material, completely in house - called **Alamar**. Any waste or cut-offs are being re-integrated in the next production cycle through our in-house recycling system, which breaks it down to it's raw material form.

Alamar is based on a **100% recyclable** thermo-plastic resin. It requires **only 18% of the energy** usage when compared with producing and processing real glass or stone products, without compromising look and feel. On top of that Alamar is extremely durable and much lighter in weight.

Focusing on sustainability since the very beginning!

These are plans, dated 26.09.1968, of our founder and Horst Schindler, who developed together with the city council a water cooling system for Cristallux's machinery park, making use of the little river Waldach, which passes through our factory's premises.





This particular water cooling systems passes water from the river's surface through two water control shafts, pump shafts and a piping system into the factory's cooling system.

From there it goes back into underground cisterns for re-cooling before it is released back into the river without any contamination.

Up to this date, with improvements over the years but still with the exact same principle, Cristallux's machinery park is being cooled in this sustainable way without wasting any water or extra energy usage – coexisting with the nature that surrounds us.

The image on the right shows a certification from **1992** for Cristallux's "exemplary environmental actions", issued by Hannover World Light show.



Over the years Cristallux has always been developing and further investing in becoming even more sustainable.

In 2009 Cristallux invested in renewable energy sources. More than 1000 m<sup>2</sup> of solar panels produce around 25% of our energy consumption. Cristallux's plan for its expansion in renewable energy sources is in full swing and aims to become self sufficient in the near future.

Sustainability has always been part of our philosophy and our DNA since the very beginning. It has shaped our core values rather than vice versa and we will continue to improve every impact we have on our environment – economically and socially. Now more than ever it is of highest importance that everyone and every business - no matter how big or small – takes responsibility!

