



Green Gems

We enable the lighting industry to develop smart and sustainable solutions.



www.green-gems.com | info@green-gems.com | +49 2858 9181891

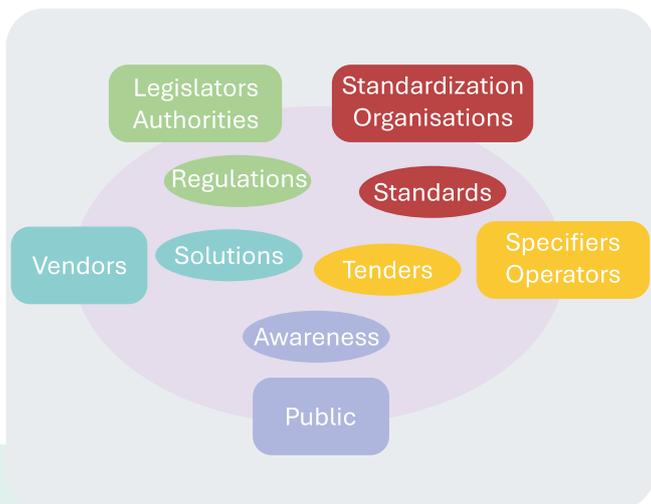


Technology Partner

Compliance & Innovation for Lighting Products

The European lighting industry is facing a fundamental shift from a linear to a circular economy, which will have impacts on the entire value chain. Bringing a lighting product to market today means mastering far more than performance and aesthetics. It requires a clear view of new and upcoming regulations, confident navigation of existing and emerging standards, and a deep understanding of real-world applications, constraints, and customer requirements. As a technology partner, this expertise is translated into actionable product decisions — from specification to scalable system architecture.

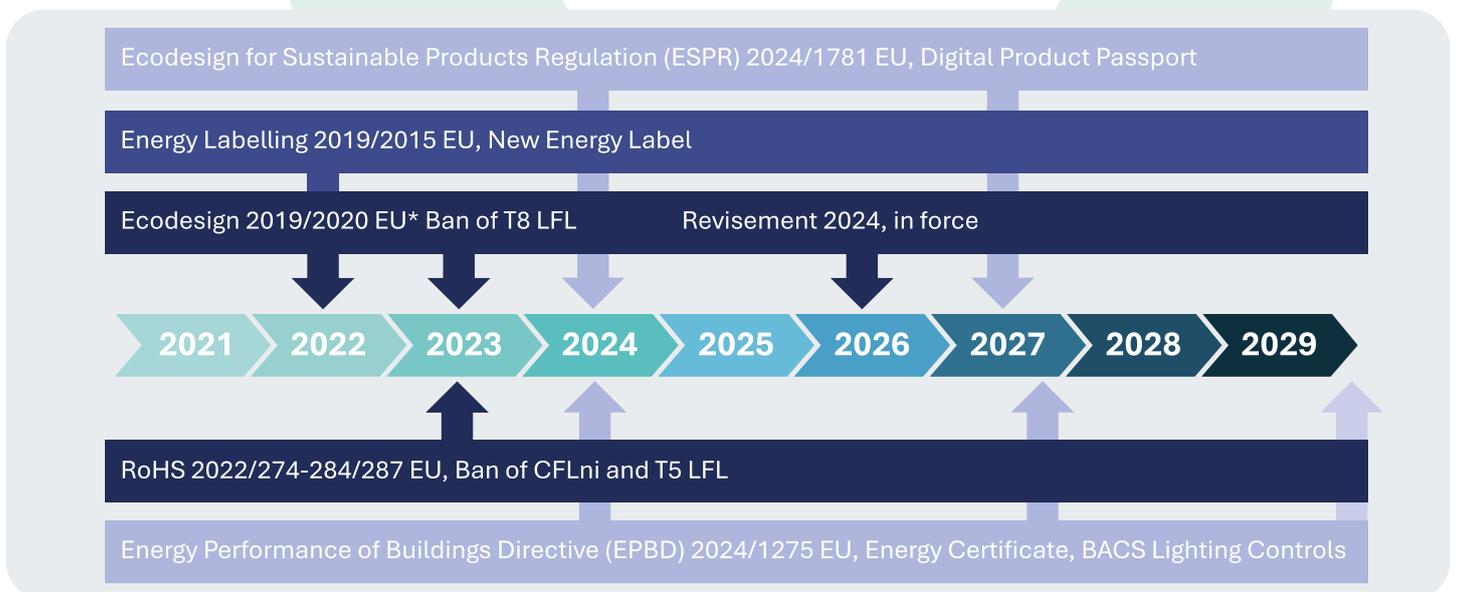
The focus is on modular luminaire design with an innovation mindset: platforms that can evolve through upgrades, variants, and new functionalities without reinventing the core. Instead of building isolated products, the approach is to create interoperable ecosystems where components, interfaces, control gear, sensorics and connectivity work together reliably. This enables global scalability, reduces complexity across portfolios, and ensures solutions remain compliant, serviceable, and future-ready.



Regulations mastered — faster market access, lower risk.

EU rules are reshaping lighting product design. Key frameworks such as Ecodesign (EU 2019/2020) and Energy Labelling (EU 2019/2015) do not only define efficiency, performance and mandatory product information but also mandate removability and replaceability of light sources.

The ESPR (EU 2024/1781) adds circular requirements like durability and reparability including the Digital Product Passport (DPP), while the EPBD recast (EU 2024/1275) boosts demand for controllable lighting in non-residential buildings and the integration in building automation systems.

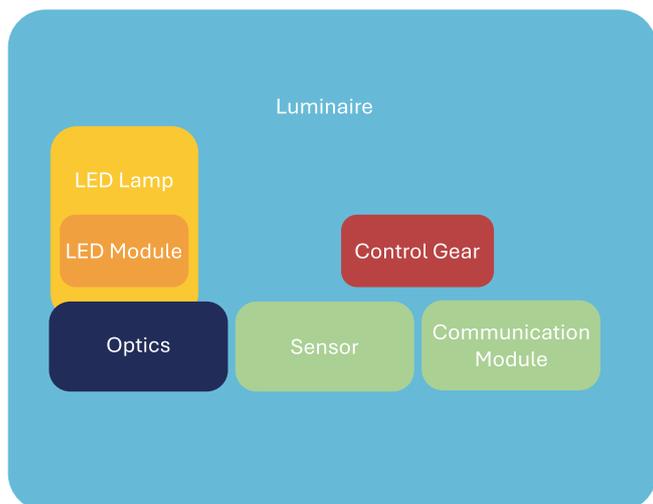
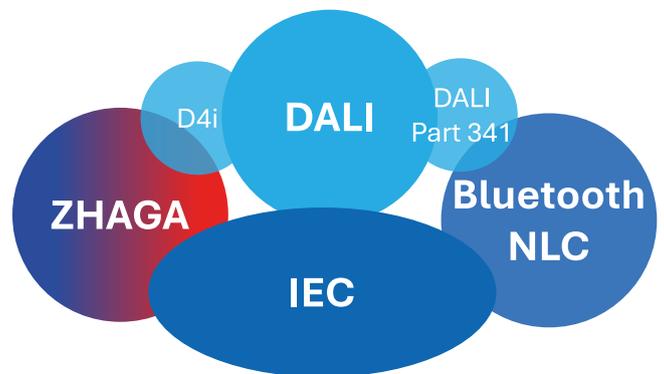




Standards that deliver real interoperability.

Smart lighting only scales when interfaces work flawlessly across vendors and generations. Zhaga, DALI and Bluetooth NLC define the backbone for modular components, robust control and wireless connectivity, while IEC frameworks ensure system-level consistency.

The result: easier integration, smoother commissioning, and products that stay compatible, serviceable and upgrade-ready.



Modular & Smart Lighting. Built for change.

Modularity is the foundation for smart-ready luminaires: LED modules, optics, drivers, sensors and connectivity can be combined, replaced or upgraded without redesigning the entire product.

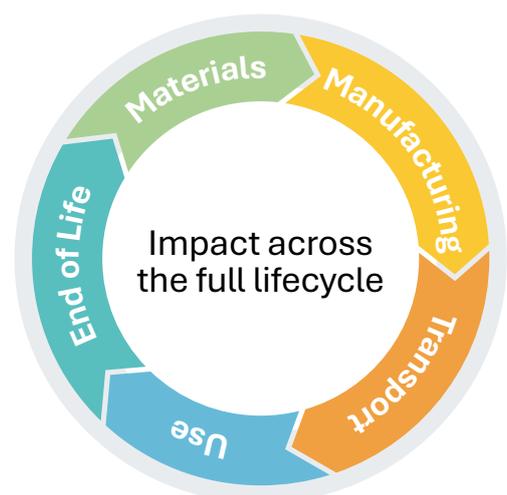
Built on open standards such as Zhaga/D4i, DALI and Bluetooth NLC, this enables reliable integration, faster variants and long-term serviceability. Hybrid smart lighting systems and their integration in building automation systems will require open software platforms.

From pilot projects to global rollouts, the product stays adaptable — and ready for what comes next.

Sustainability by design

Sustainability is moving from marketing claim to product requirement. Design choices that enable durability, repair, reuse and upgrade are becoming essential, backed by data from Life Cycle Analysis (LCA, ISO 14040/14044). The guidelines for assessing the ability to repair, reuse and upgrade are described in standard EN 45554.

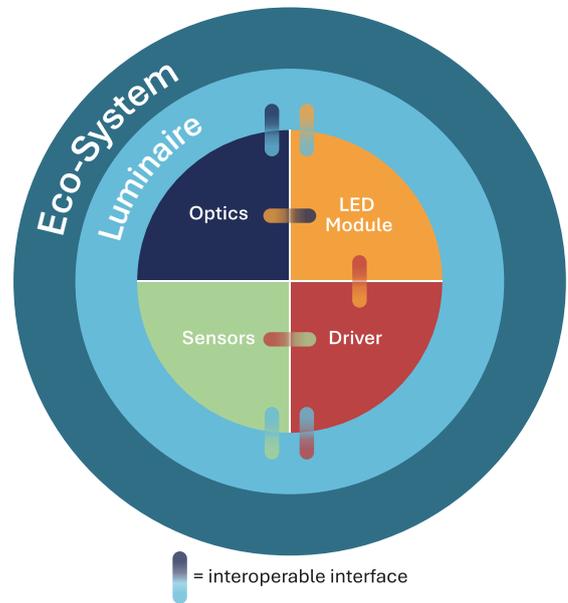
Stronger tender performance, lower lifecycle impact and products aligned with future circular-economy expectations.



Product Development. From idea to integrated solution.

Successful lighting products don't end at the luminaire. Product development must connect requirements, architecture, components, validation and industrialization with the bigger picture: how the product lives inside an ecosystem of controls, sensors, connectivity, data and services. This approach reduces integration risk, speeds up decision-making and keeps products compatible across projects and generations.

Not just a product launch — but a solution that can grow, evolve and stay valuable over its lifecycle. Let's talk and turn your next product into a scalable, future-ready ecosystem.



Standardised Components

We provide components designed for predictable integration and long-term compatibility. From lamp holder/socket solutions (such as GR6d & GH36d) and interoperable interfaces to driver-ready foundations, every building block is aligned to relevant industry standards, reducing engineering effort, avoiding interface surprises and simplifying variants.

Choose components that fit first time, scale globally, and keep products serviceable and upgrade-ready.

Let's get in touch!



Headquarter

Green Gems GmbH
Nelkenstrasse 44
46569 Hünxe
Germany

Development Center

Green Gems GmbH
Am Schornacker 13
46485 Wesel
Germany