How Zhaga addresses Sustainability & Circular Economy

Zhaga Summit
29 September 2021, Online

ZHAGA Consortium

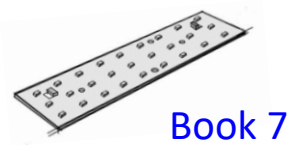
Reinhard Lecheler
Chair of the Zhaga Steering Committee,
ams OSRAM

Zhaga Consortium

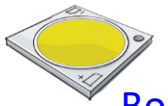
An open, global lighting-industry consortium with >350 members
(Regular, Associate, Community Members)

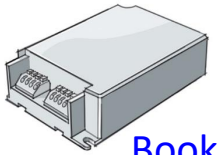
Zhaga Consortium

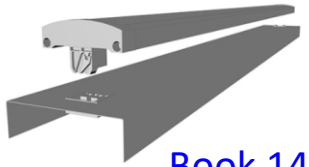
Interface Specifications for Components of LED Luminaires

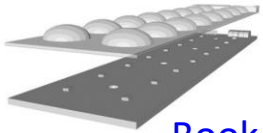

Book 7

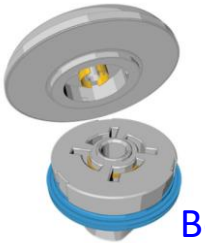

Book 10

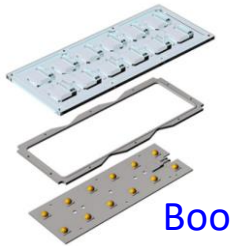

Book 12


Book 13

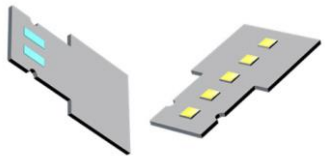

Book 14

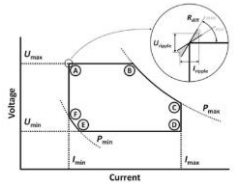

Book 15


Book 18

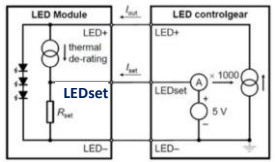

Book 19


Book 20

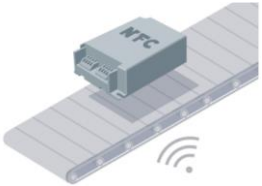

Book 21



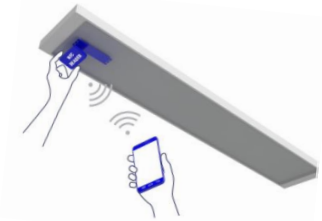
Book 22

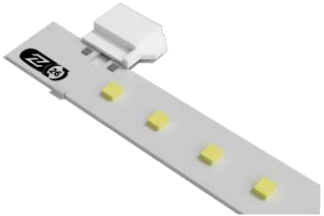


Book 23



Book 24


Book 25


Book 26

The UN 2030 Agenda for Sustainable Development

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" *[UN World Commission on Environment and Development]*.

Targeting: Governments, NGOs, companies, associations and private initiatives

Important aspects (amongst others):

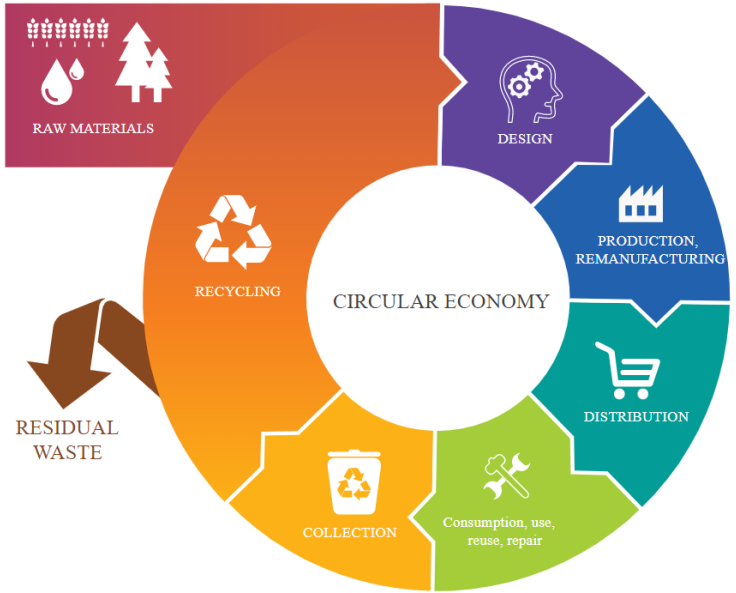
- Counteract climate change
- Conserve valuable resources
- Minimize environmental pollution

Sustainable Development Goals with strong relevance for Lighting

Circular Economy

"… a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.
In this way, the life cycle of products is extended…"

[Website of the European Parliament]



Source: https://www.europarl.europa.eu/news/en/headlines/eu-affairs/20210902STO11115/coming-up-state-of-the-eu-debate-afghanistan-health

Conclusion: An increasingly mature circular economy contributes significantly to the achievement of sustainability goals.

Circular Economy in Lighting…

… can be supported by luminaires that are

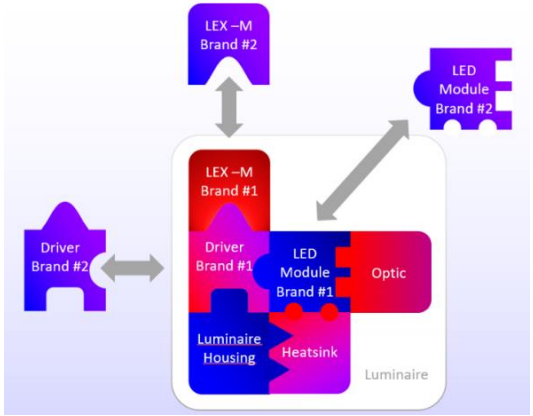
- durable
- repairable
- upgradeable
- future proof
- and have replaceable components

“Serviceable luminaires”

Serviceable luminaires

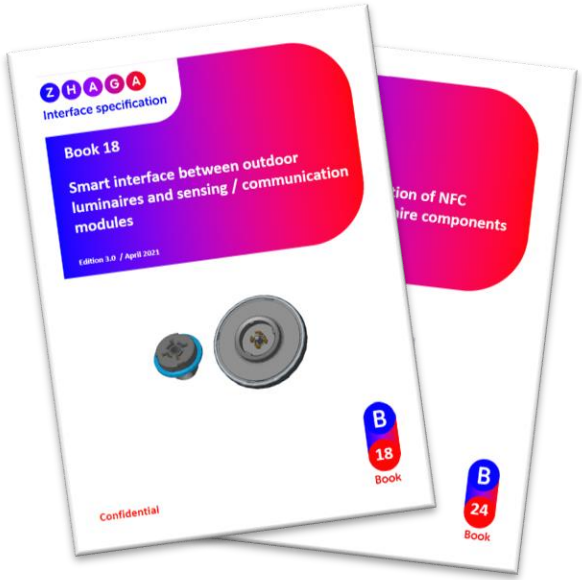
- are built on a modular luminaire architecture
- with interoperable components
- based on widely accepted interface specifications

Ideally, there is a rich ecosystem of interoperable luminaire components from different manufacturers



Circularity Lighting

The **Zhaga consortium** focuses on the development and standardisation of **interface specifications** for **interoperable components** for **serviceable LED luminaires**



Zhaga uses the term **'Circularity Lighting'** to depict a

- **market framework of standards and regulations** for products and systems
- that **support the aims of the circular economy**
- through **enhanced serviceability**.

Sustainable lighting is a more general term and includes the properties of Circularity Lighting next to supporting energy efficiency.

Problems to be addressed and solutions provided

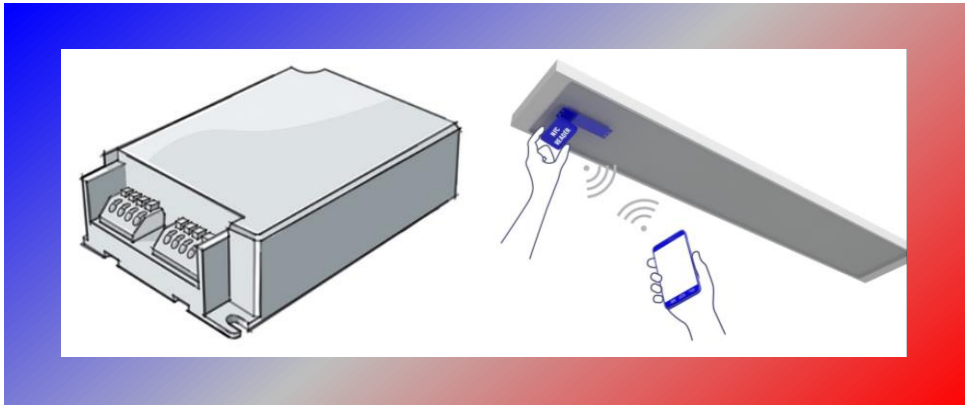
1. Different life cycle of luminaires and connectivity solutions

Zhaga solution:

- Specifications for intelligent interfaces between outdoor resp. indoor luminaires and sensor /communication modules (**Zhaga Book 18 and Book 20**)

Problems to be addressed and solutions provided

2. Even luminaires of high quality and durable design can sometimes experience an early failure.



Zhaga solution (examples):

The **Zhaga Books 24 and 25** allow programming of LED control gear from different manufactures by using unified NFC programmers.

The **Zhaga Books 21 and 26** enable the replacement of LED modules on-site.

Problems to be addressed and solutions provided

3. An upgrade of product features may be desired (example)

Zhaga solution (example):
The ecosystem created by the **Zhaga Books 21 and 26** allows the selection of modules with desired characteristics (efficiency, colour temperature, CRI, etc.)

Conclusion

- **Sustainable lighting** systems are energy-efficient, durable, can be repaired, adapted and upgraded, and do not contain any harmful substances..
- A **modular approach** based on standardised component interfaces makes luminaires **serviceable** and creates the conditions for an efficient circular economy in the lighting industry.
- **Circularity Lighting** refers to a market framework with products and systems that support the aims of the circular economy through enhanced serviceability

The Zhaga consortium focuses on the development and **standardisation of interface specifications for interoperable components for serviceable LED luminaires**.
Zhaga also offers a **certification program**. This results in a rich **ecosystem of luminaires and components** which work together across the manufacturer base.

Luminaires become serviceable, repairable, upgradeable, future-proof and sustainable.

September 2021

Zhaga Consortium
445 Hoes Lane, Piscataway,
NJ 08854 USA
info@zhagastandard.org
www.zhagastandard.org

www.zhagastandard.org

White Paper

How Zhaga addresses Sustainability and the Circular Economy

Durable, repairable and upgradeable LED luminaires are key elements contributing to sustainable lighting. Zhaga is developing and standardizing interface specifications for components of serviceable luminaires, to help facilitate a new market framework called "Circularity Lighting".

Introduction

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" *[UN World Commission on Environment and*

Thank you!

Reinhard Lecheler

www.zhagastandard.org

Smart standards. Smarter lighting.

ZHAGA Consortium

Follow us: