

## SESSION 1

# **Technologie LED : états de l'art et tendances** **LED technology: state of the art and trends**

## **The NEW Zhaga, Addressing true interoperability**

By

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The Zhaga Consortium

# Agenda

- Introducing Zhaga
- Interface specifications à la Zhaga: Smart Standards & interoperability
- Zhaga Book 18: Smarter lighting for the smart city
- Zhaga Book 20: Smarter lighting for the smart building
- Conclusion

Amphenol



Your Connection to Light

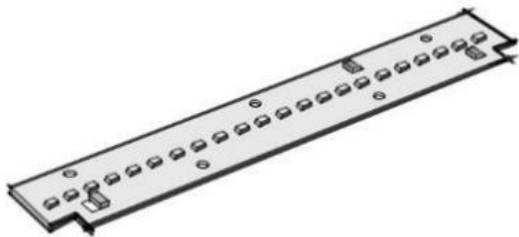


An open industry consortium with 100 (regular, associate, and community) members



Develop interface specifications for components of LED luminaires and so remove or reduce variation in a number of parameters where this variation does not add value

Dimensions of linear modules



Smart luminaire interfaces



Mounting holes and optical contact area

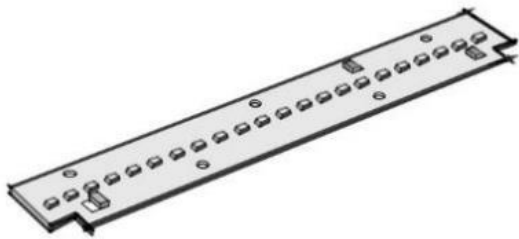


# A NEW Vision and MISSION

- Address **all interfaces**, including those for **smart components**, such as sensors and communication modules
- Define interface specification enabling **interoperable** components to allow the **upgrading** and **servicing** of LED luminaires
- Include stakeholders from sensor, communication, and services industries

Develop interface specifications for components of LED luminaires and so provide for separation of concerns between different industries through interoperability

Dimensions of linear modules



Smart luminaire interfaces



Mounting holes and optical contact area





# Services for smarter lighting



Changing or reconfiguring parts of an LED system – such as a module or a driver – to accommodate changes in performance, appearance, taste, functionality, building layout or utilization, or latest technology advancements

Standardized interfaces for interoperable components are key for

- Repair
- Upgrade
- Innovation to market
- Late stage configuration
- Circular economy

# Services for smarter lighting

ZHAGA Book 21 in progress:  
Linear module with socket

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# Smarter lighting for the smart city

ZHAGA BOOK 18

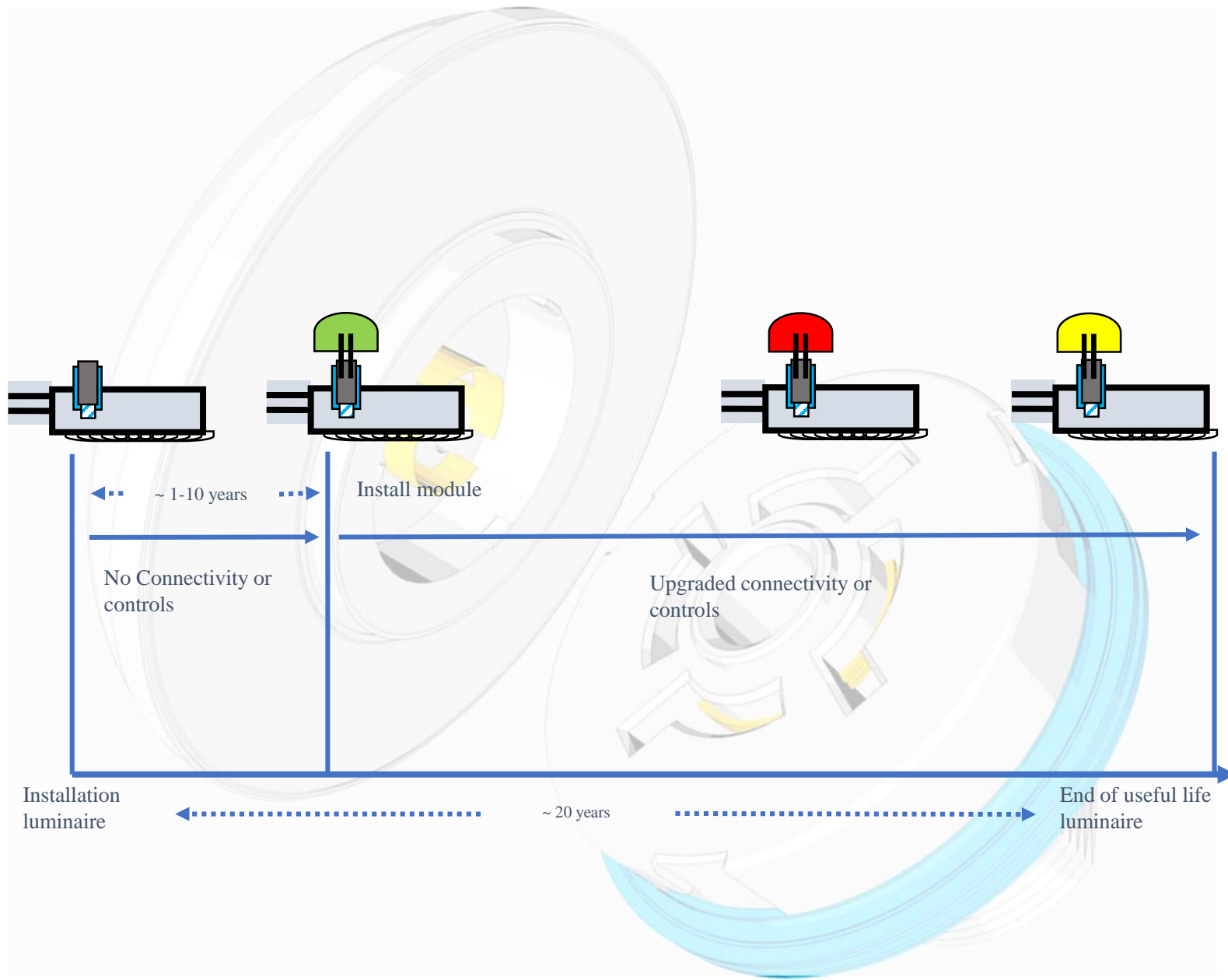
Define the smart interface between an outdoor LED luminaire and extension module, such as sensor or wireless light management module

Enable plug-and-play interoperability between luminaire and module

Phase 1: Mechanical aspect

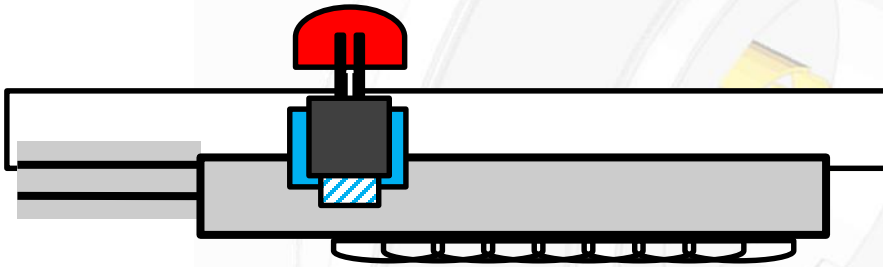
Phase 2: Power and control aspects

Phase 3: Two interfaces



# Phase 1: Completed and published

ZHAGA BOOK 18



## Phase 1: the mechanical interface

Specifying both receptacle interface and module interface; 30mm diameter; four Sn-plated pins; lock may act as key; room for vendor differentiation; testing and certification, ....

**A great and modern alternative to NEMA for ANSI C136.10 and 4**

- New use cases for motion detection and security
- Small
- Designed for low cost
- Low power sensor-module design
- In-field upgrades
- .....

Smart  
Luminaire  
Interface



18

mination  
Alliance

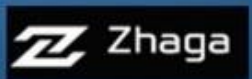
Phase  
interf

- I
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- C
- E
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rability

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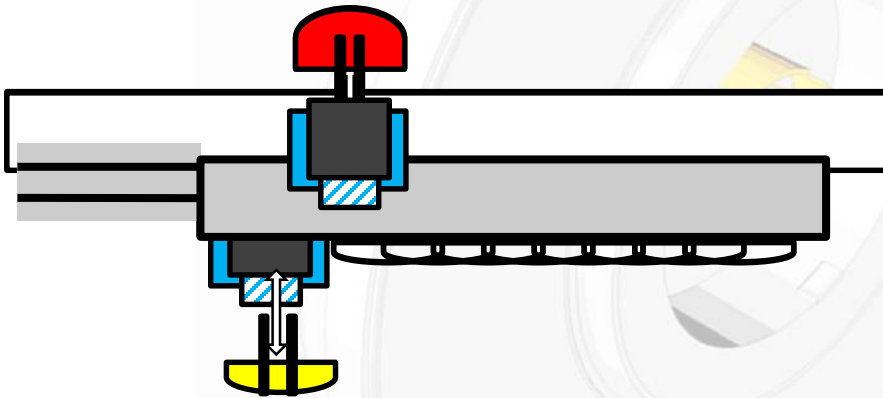
certification flow



• .....

Phase 3: To be started Q2 2019

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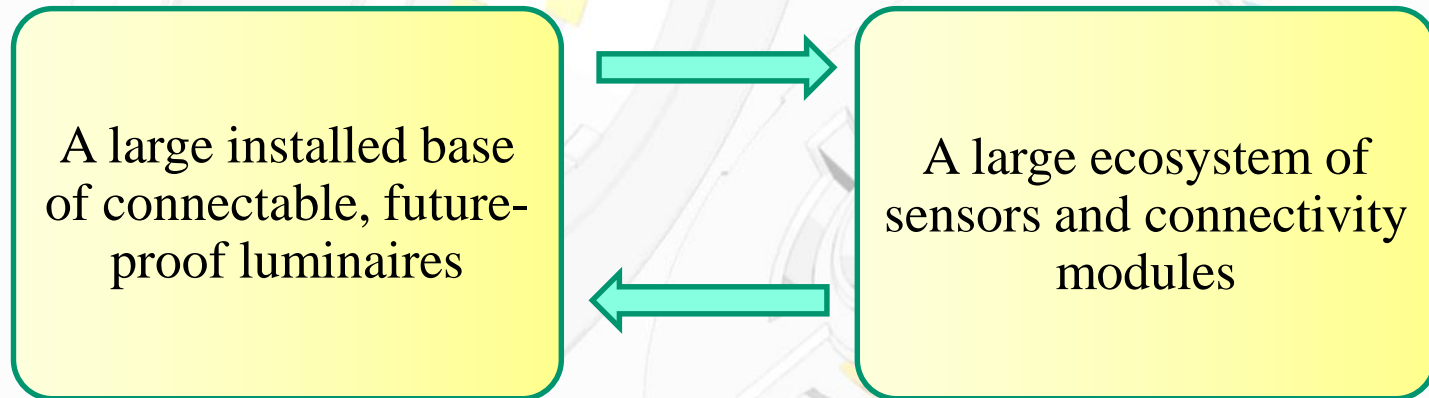
**Phase 3: Two luminaires interfaces**

- In collaboration with DiiA
- Additional use case
  - Sensing and Communication

**Luminaires backwards compatible with phase 2**

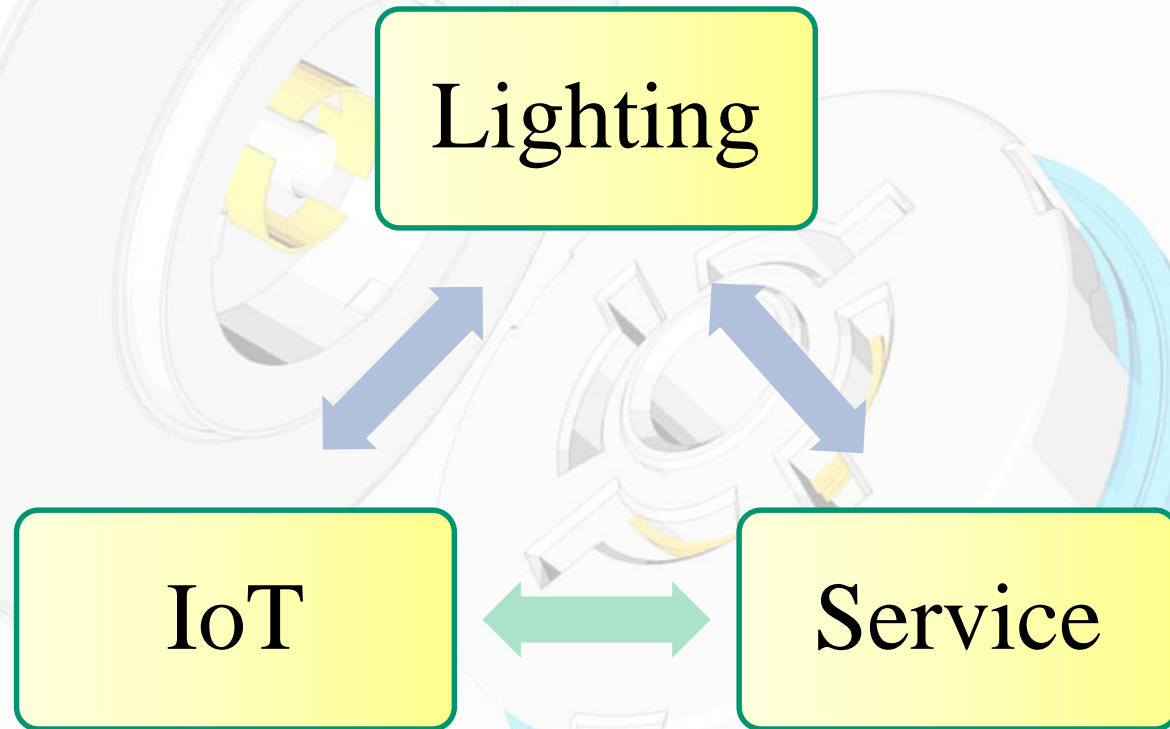
- Power partitioning
- Multiple bus master
- .....

# Reduce interface variation to drive growth





# Separation of concerns to drive growth



# Smarter lighting for the smart city

And attracting new members, since 2019

## Many products announced already

- Module base plate & Luminaire receptacle
- Modules: Various light management systems (including 3G, 15.4), Light sensor, LoraWAN, Light controller
- Luminaires



**Collaboration with specifiers** such as Institute of Public Works Engineering Australasia for purchasing model, Nordic road authorities, ....

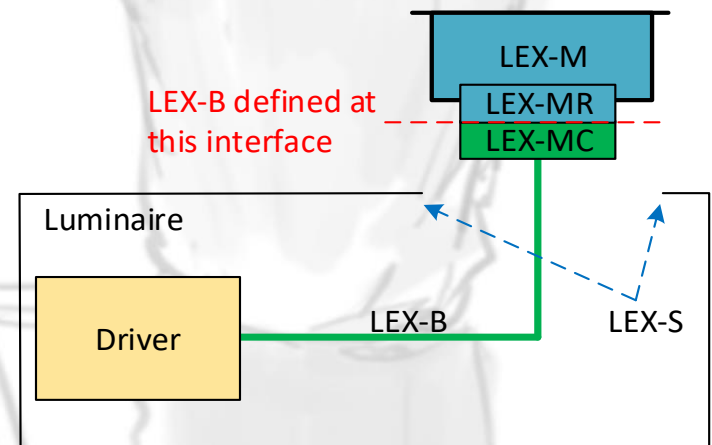
# Smarter lighting for the smart building

ZHAGA Smart – indoor – luminaire interface (BOOK 20) in progress  
Expected Q3 2019

Mechanical concepts provide high flexibility; in progress; with following proposed concepts

- Specification of extension slots
  - Rectangular AND circular
- Module receptacle
- Mates with luminaire connector or luminaire bus

Minimize divergence with outdoor protocol



# Conclusion

- Zhaga has widened its scope: The NEW Zhaga
  - Continues to drive out unnecessary variation
  - Addresses interoperability more fully, and interfacing of smart components to address new business cases in IoT and services
- Smart luminaire interfaces as first proof points
- Multiple additional topics we could talk about: Interoperability for Modules, Drivers, Membership, ....