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LpS 2018
LED SYMPOSIUM
professional +EXPO

Zhaga connectivity interfaces for smart cities and smart buildings

Dee Denteneer
The Zhaga Consortium

- Introductions
- Interface specifications a la Zhaga: Smart Standards
- Zhaga Book 18: Smarter lighting for the smart city
- Zhaga Book 20: Smarter lighting for the smart building
- Lessons learned & reasons to visit Booth #21

□ Secretary General of Zhaga

- Director of Standards, Signify
- Fairhair, Technical Working Group Chair
- Former zigbee treasurer, Chair 802.11s, Board members ES ISI, ..

□ SecGen@Zhagastandard.org



 Zhaga

Smart standards. Smarter lighting.



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

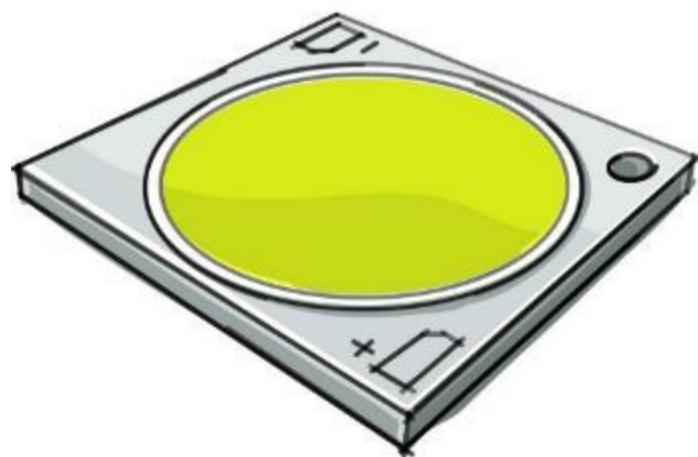


Your Connection to Light



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

CoB physical dimensions and contacts



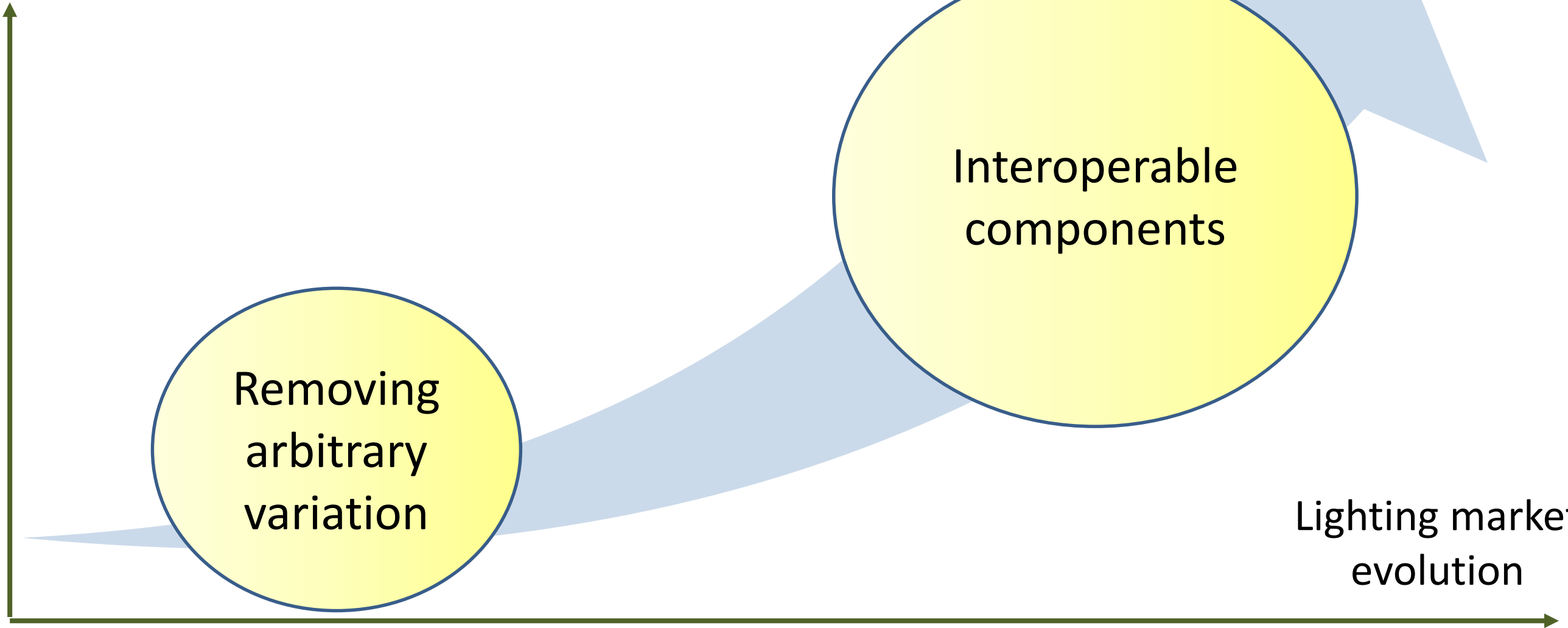
Dimensions of linear modules



Mounting holes and optical contact area



Lighting
Market size



LED penetration
in lighting

Lighting and IoT and
service economy

Old Zhaga



NEW Zhaga

A “NEW” ZHAGA

- ❑ Zhaga has widened its scope to increase value for its members
- ❑ Zhaga has accordingly adapted the Zhaga Consortium Agreement for scope and IPR policy, Vision and Mission, and target membership

A “NEW” Vision and MISSION

- ❑ On top of their primary lighting task, LED luminaires are becoming increasingly **smart and connected to IoT networks**.
- ❑ The design of a new luminaire is facilitated by the availability of a large supply of **interoperable components**, based on **standardized interfaces**, while still encouraging differentiation.
- ❑ Zhaga creates specifications for electrical, mechanical, optical, thermal and communication interfaces for **interoperable components** to be used in LED luminaires.
- ❑ These **interoperable components** allow the **upgrading** and **servicing** of LED luminaires, depending on the design choices by the luminaire manufacturer.
- ❑ The ability to **upgrade** LED luminaires after installation is of great benefit to end customers. Their luminaires are future proofed to embrace upcoming innovations in the lighting industry, including the digital innovations beyond lighting.
- ❑ The ability to **service** LED luminaires encourages more resource efficient business models that meet circularity requirements, including legislation and drive market growth.
- ❑ The Zhaga logo proves the certification of interoperable components and provide an easy means to identify components that can be upgraded and serviced.

Zhaga creates new opportunities for the lighting value chain in the innovations beyond lighting

A "NEW" vision a MISSION

- Address all smart for
- Define in New contract available
- Include stakeholder services industries Started September 2018

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

“Gone are the days when lighting technology could be researched, designed and delivered in silos. Today, all the complex, interlocking factors must be understood and considered when creating modern lighting systems for them to have relevance and longevity in the new, complex and ever changing marketing place.” LS news

Services for smarter lighting

ZHAGA in progress

Standardized interfaces for interoperable components are key for

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

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

Smarter lighting for the smart city

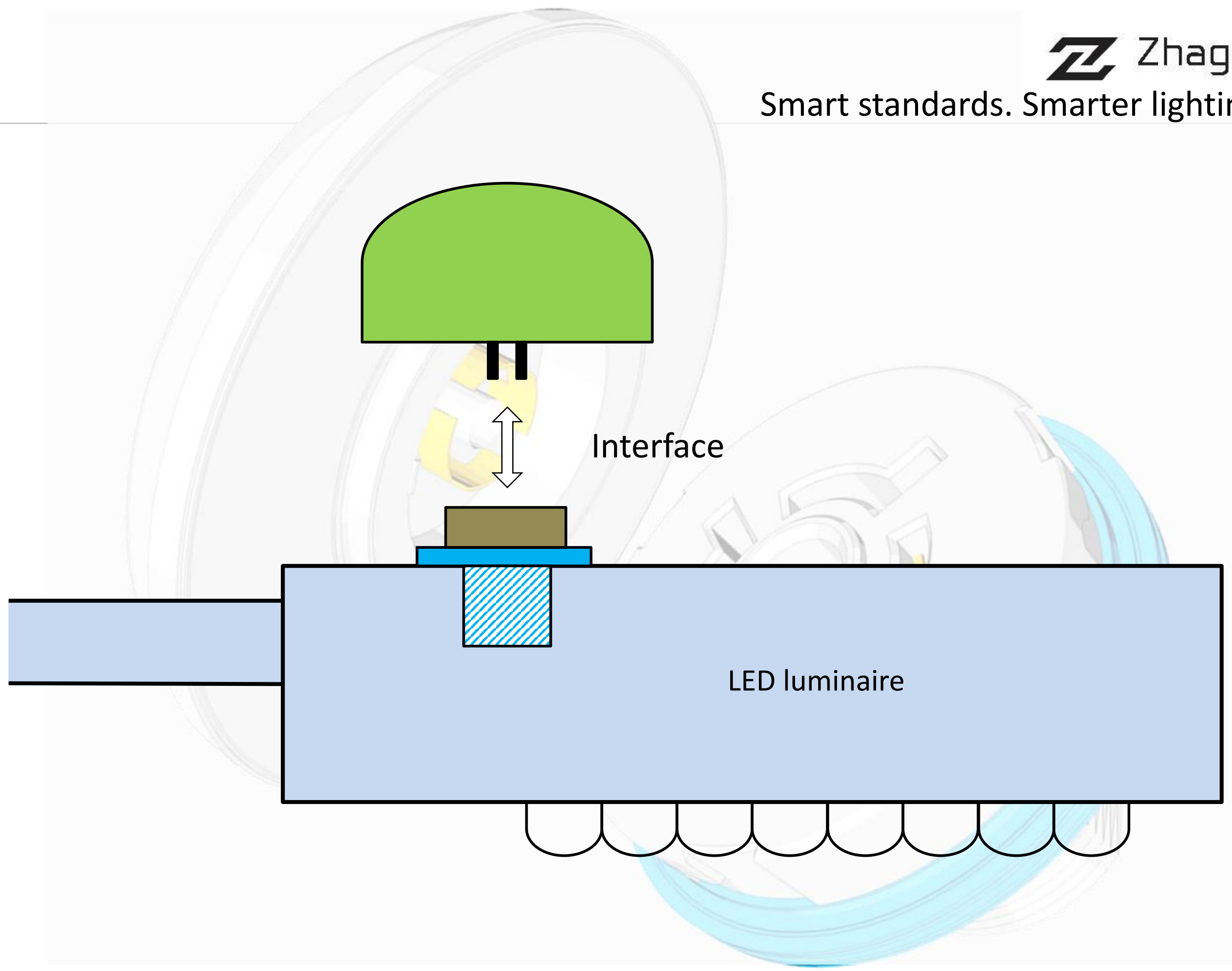
ZHAGA BOOK 18

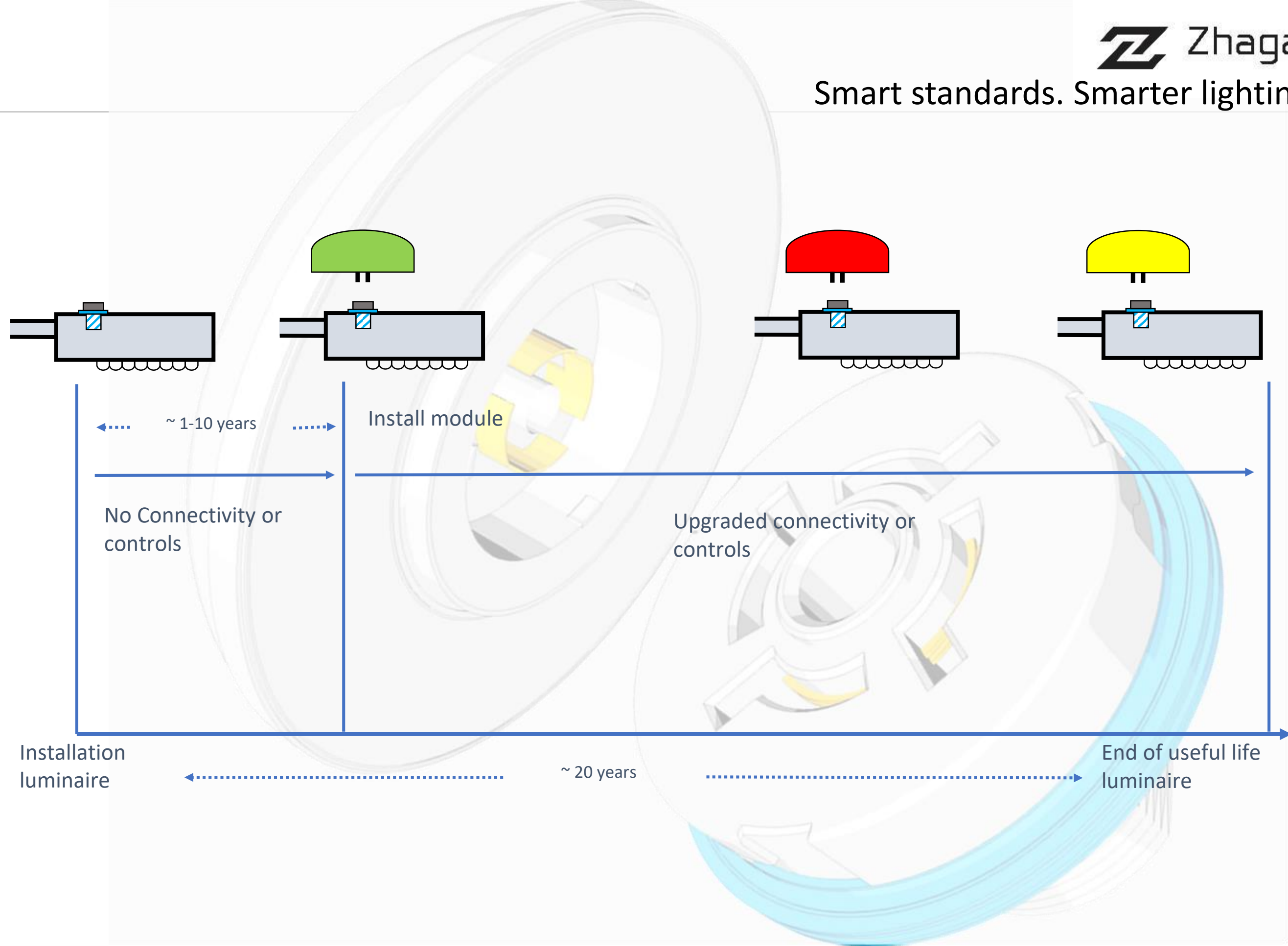
Define the interface between an outdoor LED luminaire and extension module, such as sensor or wireless light management module

Enable plug-and-play interoperability between luminaire and module

Phase 1: Mechanical aspect

Phase 2: Power and control aspects





Phase 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,

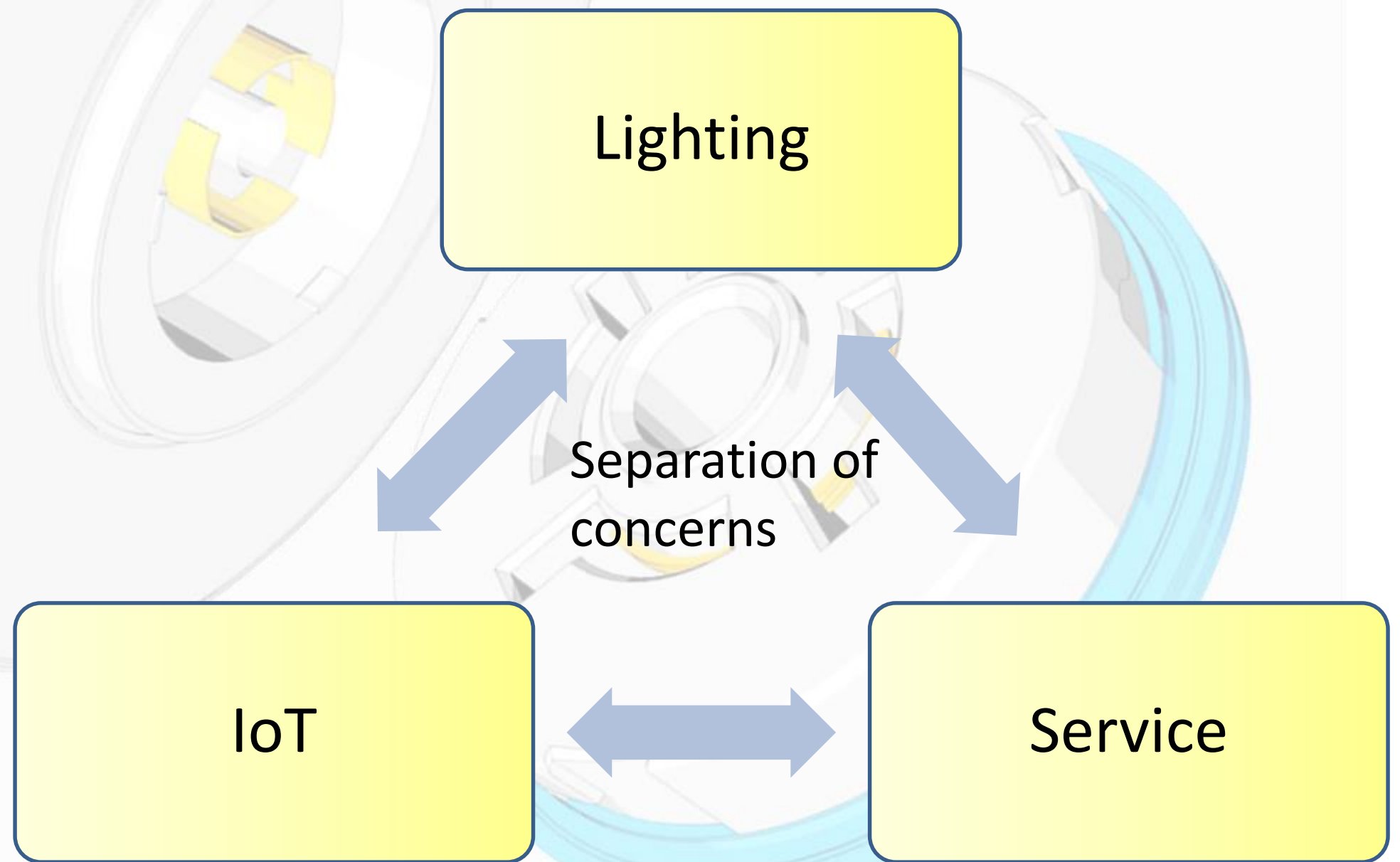
A great and modern alternative to NEMA for ANSI C136.10 and 4

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

Reduce interface variation to drive growth



Interoperability to drive growth



Smarter lighting for the smart city

Reasons to believe

And attracting new members, in 2018




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, ...



See joint DiiA –
Zhaga panel
discussion at 13:30
on the Showfloor

- Will discuss various aspects

Smarter lighting for the smart building

ZHAGA BOOK 20 in
progress
Expected mid 2019

Enable plug-and-play interoperability between indoor LED luminaire and sensor or wireless light management module

Accelerate the adoption for smart luminaires

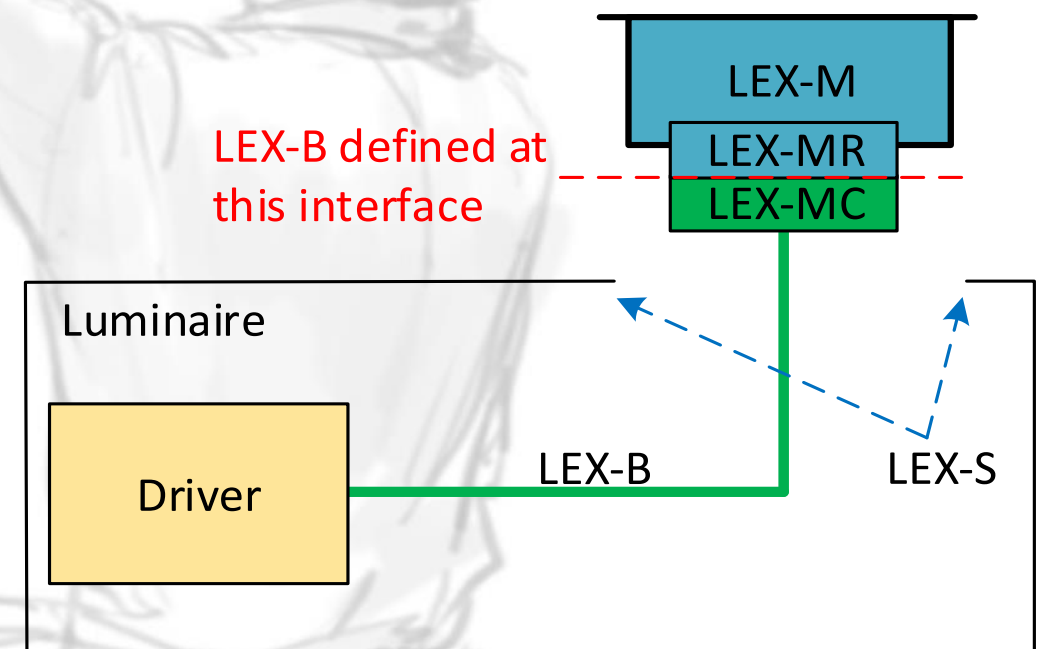
Zhaga members like Osram, Philips, Tridonic, Samsung, Legrand, BAG and Helvar, TCI, Panasonic and TE Connectivity, and new members are welcomed to participate

Smarter lighting for the smart building

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

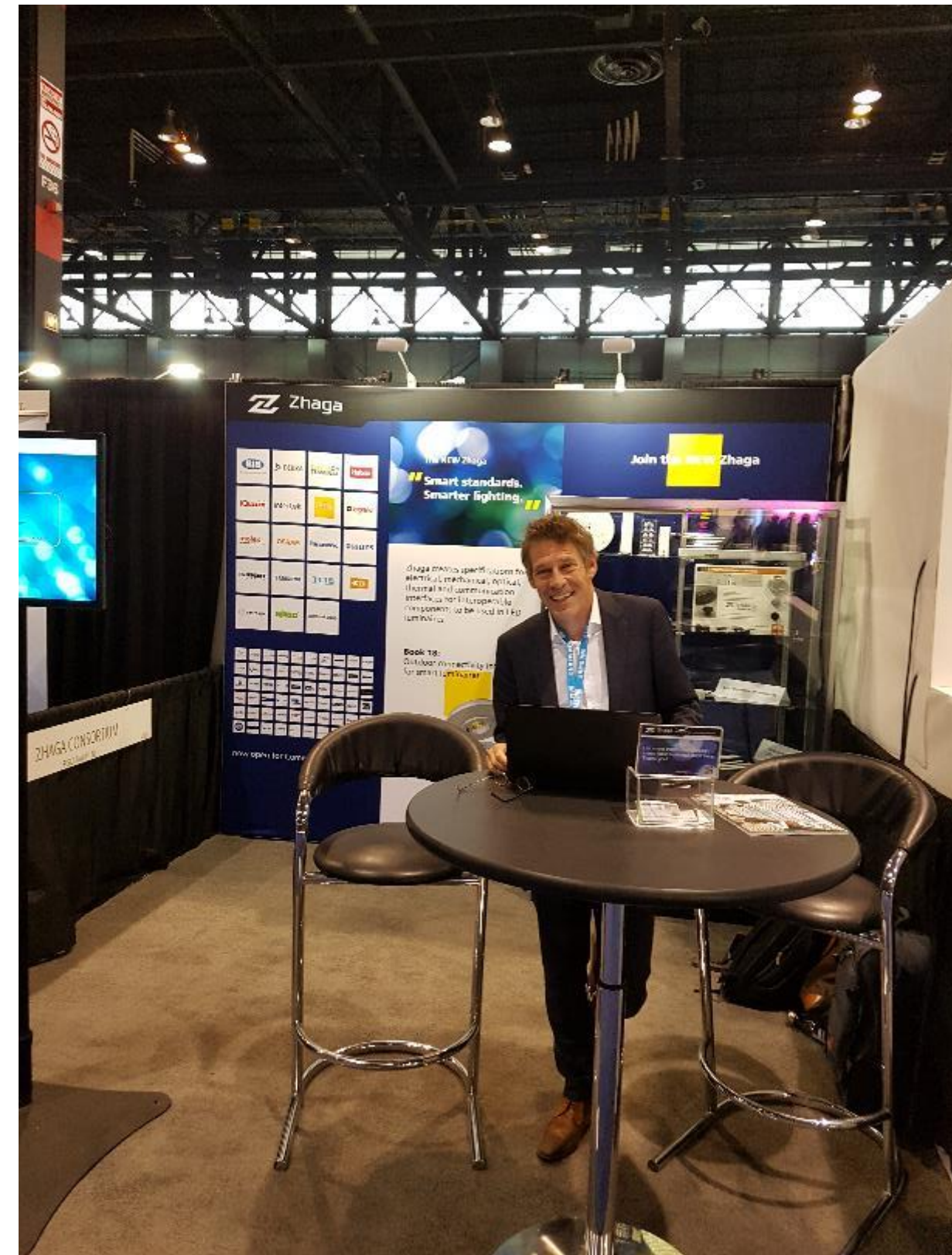
Minimize divergence with outdoor protocol



Visit us at the booth to discuss

- ❑ IEC transfers, ANSI collaboration
- ❑ TF-EMC, MD-SIG NFC driver programming, modules and lenses with IP-protection
- ❑ Community membership

And the NEW Zhaga including
Book 18 and 20



Lessons learned

- Zhaga has widened its scope: The NEW Zhaga
- Continue to drive out unnecessary variation
- Address interoperability more fully, and interfacing to
 - IoT
 - Services
- Book 18 and 20 as first proof points

Learn more



Smart standards. Smarter lighting.

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Or booth #21