



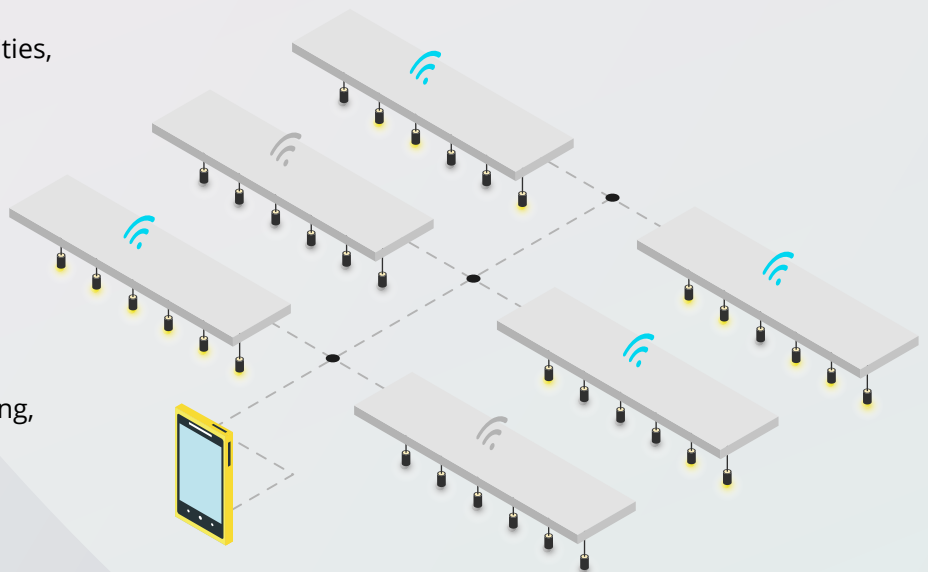
DARA Lighting

Complete smart lighting IoT solution that uses Bluetooth and WI-FI to control remotely and individually thousands of devices

DARA Lighting helps companies to better manage the costs associated to lighting, while offering the possibility to improve user experience.

DARA Lighting at a glance:

- The key element of DARA Lighting is the **DARA L device, an intelligent controller that connects and controls up to 64 DALI luminaires**, while multiple DARA L devices can control thousands of luminaires
- **The lighting infrastructure can be managed anytime and from everywhere, through DARA App for iOS and Android phones and tablets**, that offer a variety of functionalities, like setting light intensity, the color temperature, changing the light color, switch it on and off, or setting automated light scenarios. The app is available in English and German languages
- Due to DARA L device's dual capabilities, **control can be done locally, via Bluetooth Low Energy or remotely via Wi-Fi connection**
- **DARA Lighting has a broad industrial application** – while being a horizontal solution, DARA Lighting adds value mainly in Retail, Manufacturing, Warehousing, Commercial buildings, Leisure and Entertainment

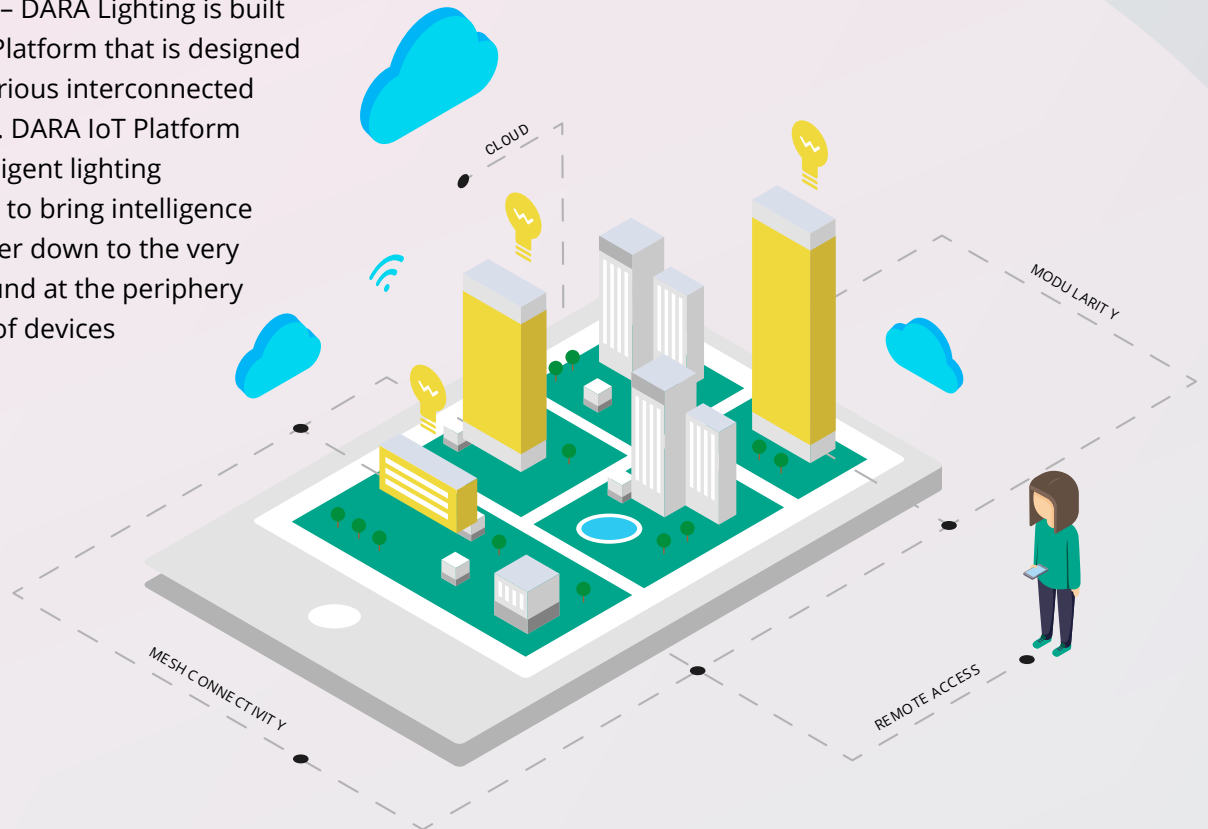


DARA Trademark and Software Owner



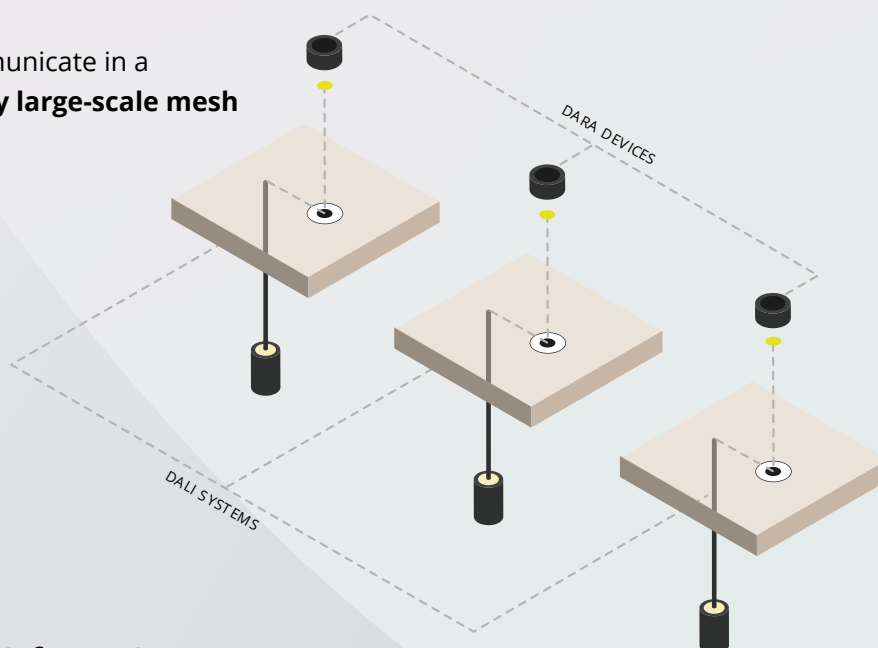
DARA Lighting system characteristics:

- **IoT platform** – DARA Lighting is built on DARA IoT Platform that is designed to manage various interconnected smart objects. DARA IoT Platform uses the intelligent lighting infrastructure to bring intelligence from the center down to the very last object found at the periphery of a network of devices



- **Agnostic** – DARA is designed to work with any DALI luminaire, or DALI addressable sensor, regardless of the manufacturer

- DARA devices all communicate in a **Bluetooth Low Energy large-scale mesh**

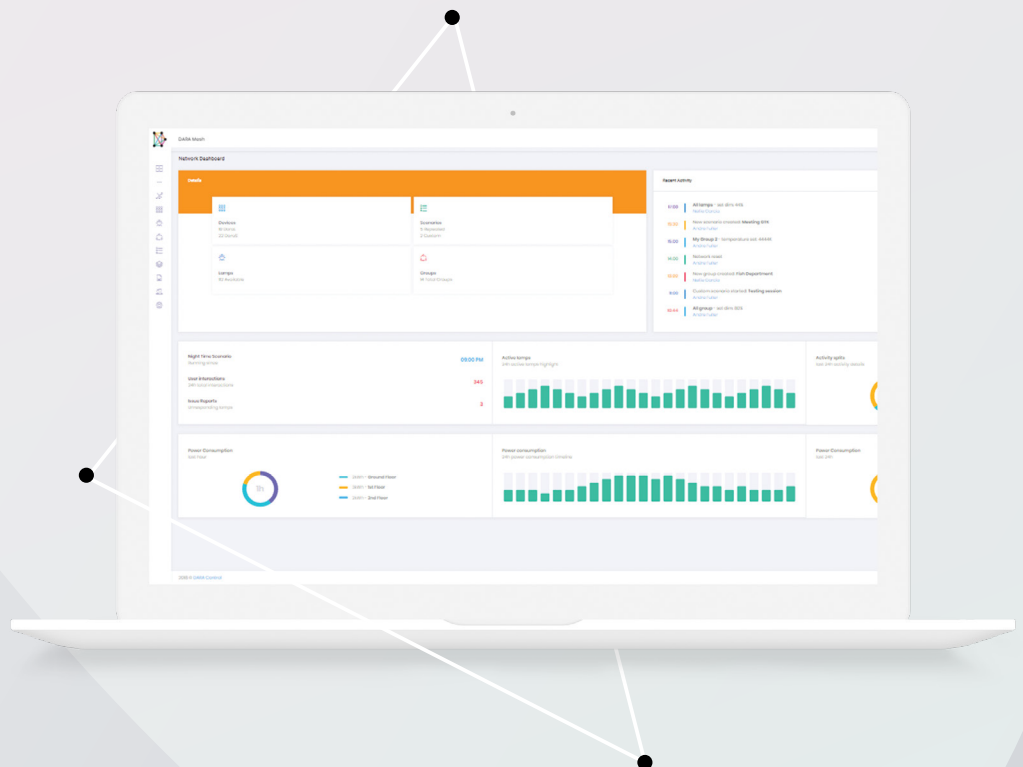


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- **DARA device communicates to the cloud and the controlling mobile devices via Wi-Fi and Bluetooth**
- **Configurable mesh** – being able to create, reset and refresh a network, or an individual device. This is particularly needed for network initial setup and whenever a user needs to change the configuration by adding or removing devices and luminaires
- **User management** – only authorized users are able to access DARA Lighting setup. The types of authorized users are: owner, admin and basic
- **Cloud based** – DARA takes advantage of Microsoft Azure and Amazon Web Services state of the art technology, security and scalability
- **Fully wireless and cable-less** – this makes it possible to modernize the lighting infrastructure in a building without replacing the electricity cables, it is a non-invasive solution that helps the owners to transform their old building into a green, energy efficient modern building
- **DARA device firmware updates over the air**, there is no need for wires to update the software on the devices to the latest version

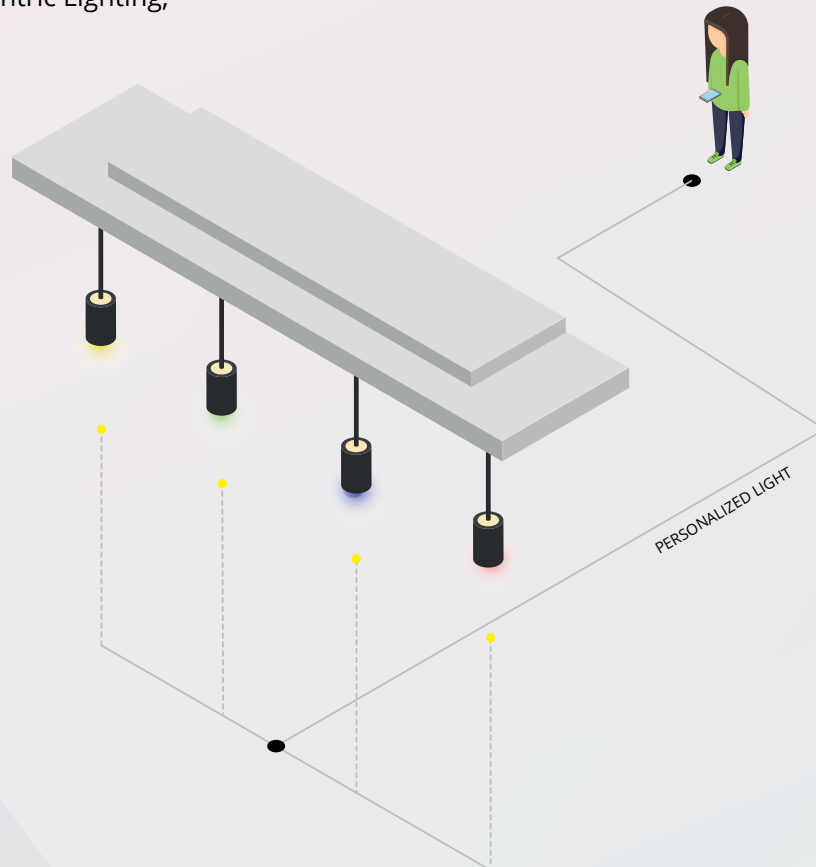
- **Cloud**
- **Modularity**
- **Analytics**
- **Mesh Connectivity**
- **Data Security**
- **Real Time**





DARA Lighting features:

- **DARA L device controls up to 64 DALI luminaires** – DARA is designed to fit lighting infrastructures of thousands of luminaires through its large-scale mesh
- The lighting system can be controlled via Bluetooth when the user is in the proximity with his mobile phone, or remotely via Wi-Fi connection;
- **Controls stand-alone luminaires, as well as groups of luminaires** - set intensity level, color temperature, RGB color, Human Centric Lighting;

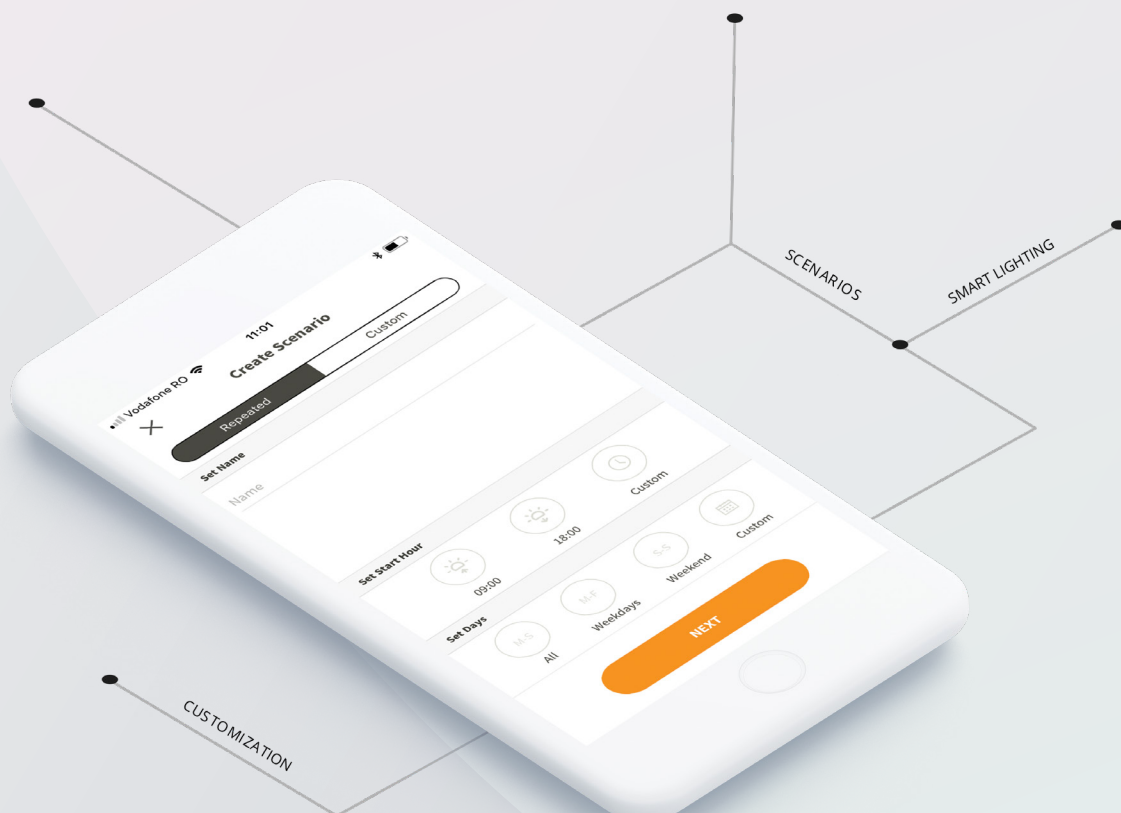


- **Dimming control** – individual luminaires, as well as groups of luminaires are dimmed instantly or as part of a predefined scene. Beside the comfort that brings to the eye, this feature is of a critical importance for saving energy, as it allows clients to dim the light according to the type of activity performed in the workspace
- **Tunable white control** – light color temperature can be adjusted to reflect the need or mood of the user. The light provided by the luminaires can be changed from warm to cold, in a range between 2500K - 7000K. This feature requires luminaires that are tunable white enabled

DARA Trademark and Software Owner



- **Enhance color temperature** from photo or camera – by taking a picture of an object, the system knows how to adjust the light color temperature in order to enhance the color of the object
- **RGB control** – any color is a combination of red, green and blue colors, same is for light. RGM control gives to the user the possibility to design the light in any space, either by using specific RGB values or by using the color picker from photo library, from a new photo or from the live camera. This feature requires luminaires that are RGB enabled
- **Human Centric Lighting** – nowadays, most of the people stay to much indoor facing what is called light pollution, being too much exposed to artificial light. HCL simulates the sunlight in our indoor environment by having the luminaires radiating the light according with the time of the day. This feature requires luminaires that are HCL enabled
- **Create scenes** – this feature allows the user to preset various combinations of color, intensity, and color temperature of the luminaires in a room to match work or leisure activities. Preset scenes are included in the application for the use of retailers, to enhance the color of goods in store
- **Configure scenarios** – for individual or groups of luminaires to turn-on, turn-off and vary the light intensity at a specified time. Scenarios run automatically, as configured, without any other user action





- **Daylight harvesting and presence sensors** – through the use of light harvesting sensor, the system doses the artificial light needed to complement the natural light in order to achieve the desired quantity of light. The presence sensor will trigger the right amount of light when people enter the area. Configuring the sensors is a easy task, as the configuration options are available in the mobile application
- **Wireless and self-powered switch** – switches get smarter, too. The switch brings part of the smart features of the application to the level of the user that has no access to the system. The switches have on-off and dimming functions, along with the ability to control preset scenes. They are Bluetooth enabled and self-powered, eliminating the need for electrical wires and allowing the user to move it anywhere in the room
- **Web Dashboard** is an advanced control feature provided as a service. The authorized user accesses the system remotely via Wi-Fi by using the Web Dashboard control functions. All features that are available in the mobile application are available in the Web Dashboard, as well as additional advanced functions and reports, such as user activity and preventive maintenance
- **DARA Audio** – wireless speakers are added to the DARA environment for improved user experience mainly in stores or office spaces. The audio system integrates with the lighting system allowing the user to configure light & sound scenarios from the Web Dashboard