OPPLE

See Beyond



SMART INDUSTRY

LIGHTING SOLUTION

OPPLE.COM

Contents

01

Page

About OPPLE 01-08

02

Page

Industrial Lighting Insight 09-12

03

Page

Factory Scenario-based Solutions 13-24

04

Page

Case Studies 25-30

05

Page

System & Product & Service 31-36

About OPPLE

30 Years of Lighting Excellence

Philosophy:

See Beyond

Vision:

World's NO.1 Smart Lighting Brand

Mission:

Create value out of light by focusing on innovation that put people first



Global Distribution



Expanding business globally

70+ countries and regions

130,000+ sales outlets

3000+ retail stores

* Subsidiaries in the Netherlands, Dubai, Thailand, Indonesia, and Vietnam

About OPPLE

Research & Development

2
Professional R&D Labs

15
Testing Labs

7
Consecutive Years

10
Consecutive Years

Passed the TÜV SÜD ACT Evaluation*
* A certification by Germany's TÜV SÜD verifying the lab's testing capability and reliability

Passed the CNAS Lab Evaluation*
* Accredited by China's national authority to ensure reliable and internationally recognized testing

56M+USD
Annual R&D Investment

4.31%
R&D to Revenue Ratio

4000+
Issued & Pending Patents

500+
R&D Professionals



About OPPLE

2 Manufacturing Bases

Wujiang Area: 660,000+㎡



Product Line:
Downlights/Spotlights/Fan lights/Ceiling lights/Streetlights, etc.

South China Area: 300,000+㎡

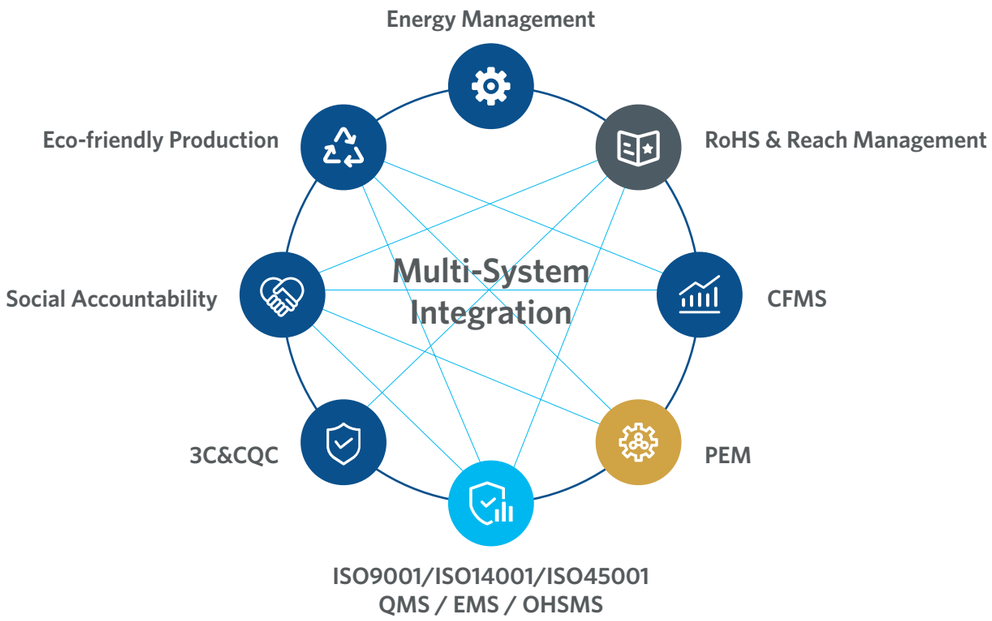


Product Line:
Downlights/Spotlights/Light source/Decorative lights/Lamps

4000+ Patents and Certifications

Comprehensive Management & Product Certifications

106 CB Certification, **103** ENEC Certification, **250** CCC Certification, **161** CQC Certification.





System & Product Certifications + ILAC/CNAS LAB

120+ International Design Awards (2013.01-2025.11)

x14	x19	x14	x6	x18
iF Design Germany	Good Design Japan	Red Dot Germany	IDEA USA	China International Lighting Design Competition

x47	x1	x5	x4
Aladdin Award	Red Star Design Award	China Good Design Award	Golden Pin Design Award



Industrial Lighting Insight

Introduction

Industrial lighting solutions are widely applied across industries such as electronics, textiles, steel, chemicals, machinery, pharmaceuticals, and automotive manufacturing. Engineered for harsh environments, they deliver reliable performance under impact and vibration, corrosive exposure, extreme temperatures, electromagnetic interference, and lightning surges.

A well-designed lighting system enhances visual comfort and safety, improves productivity and accuracy, reduces maintenance needs, and drives energy savings—ultimately optimizing total cost of ownership (TCO) and supporting sustainable manufacturing.

Insight

· Challenge

Lighting as a Productivity & Safety Bottleneck

1) Insufficient illuminance and poor uniformity limit visibility, reducing productivity and increasing error rates.
2) Glare and excessive contrast cause long-term visual fatigue, significantly increasing operational safety risks.
3) Lack of scenario-based zoning limits lighting efficiency optimization, due to complex industrial environments drive diverse requirements across different zones.

High Energy & Maintenance Costs: Uncontrolled TCO

1) Low efficiency and long operating hours, combined with limited smart controls drive excessive energy consumption and prevent carbon reduction progress.
2) Harsh industrial conditions accelerate failures and raise replacement and high-bay maintenance costs.
3) CAPEX（Capital Expenditure）, OPEX（Operational Expenditure）, and downtime make TCO unpredictable and ROI difficult to justify.

· Trend

Industrial lighting is evolving from basic illumination to an integrated system that enhance operational safety, improve productivity, and optimize energy and lifecycle costs.

OPPLE's Value Proposition

High Efficiency

High Luminous Efficacy

Industry-leading luminous efficacy up to 200lm/W

Leading Smart System Practices

Smart Zoning, Adaptive Dimming & Centralized Monitoring
(Data-driven energy saving and optimized TCO)

Core Capability

Long-term Reliability

Ultra-Long Lifetime

Industry-leading lifetime up to 100,000 hours, 16 years care free

Robust & Durable

Tested to IEC standards for industrial-grade durability
(IP66, IK08, 4kV surge protection, etc.)

From Capability to Application

Scenario-based Solutions
Professional lighting design and Industry-benchmark light quality tailored to different areas (production and warehouse area)

From Application to Value

Safe Productivity，Sustainable Performance.
Optimal TCO，Proven ROI.

We deliver scenario-based industrial lighting solutions that enable safe productivity and optimize TCO through efficient and reliable lighting.

Factory Scenario-based Solutions

Key Application Scenarios





A: Production Area

· Primary Processing
· Precision Machining
· Assembly

B: Warehouse Area

· Inbound/Outbound
· Storage
· Packing/Sorting

Factory Scenario-based Solutions

Scenario-based Solutions： Production Area

Precision & Stable Lighting for High-Performance Manufacturing

Primary Processing Area

Scenario-specific challenges：

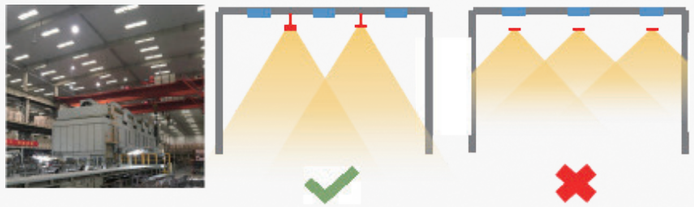
Complex overhead pipelines and varying ceiling heights cause uneven illumination
Large-area continuous operation demands stable and efficient lighting
Limited accessibility increases maintenance risk and lifecycle cost

Design Objectives：

Ensure stable illumination under complex conditions and improve energy efficiency and long-term operational reliability

Proposed Solutions:

Optical layout aligned with structural design to eliminate shadow zones
Layered beam distribution (narrow & wide optics) for multi-height efficiency
High-efficacy, industrial-grade luminaires with long lifetime to reduce maintenance



Precision Machining Area

Scenario-specific challenges：

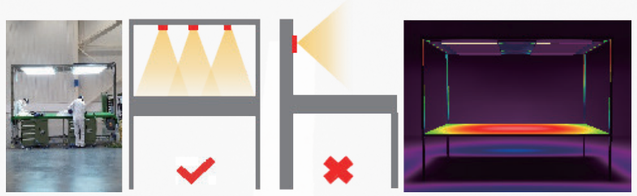
High-precision tasks require consistent, shadow-free illumination
Reflective machinery surfaces increase glare and visual fatigue
Flicker and low color rendering affect quality inspection

Design Objectives：

Safeguard machining accuracy and production quality
Reduce operator fatigue and human error in long-hour shifts

Proposed Solutions:

Low-glare optical design with controlled UGR for visual comfort
High-CRI, flicker-free lighting systems for stable visual perception
Layered lighting design: ambient arrays for uniformity + targeted task lighting.



Assembly Area

Scenario-specific challenges：

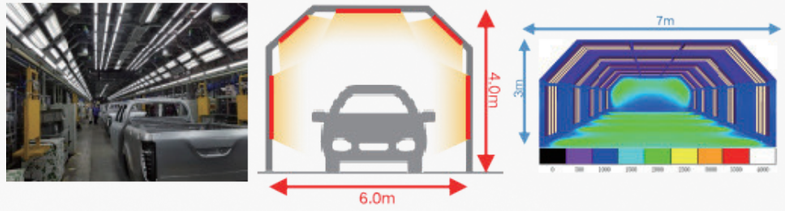
Mixed task intensity requires differentiated illumination levels
Glare and uneven lighting impact inspection precision
Dynamic workflows demand flexible lighting adaptation

Design Objectives：

Improve sorting accuracy and operational efficiency
Ensure stable lighting performance under dynamic conditions

Proposed Solutions:

Functional Zoning & Precise Configuration:
1) Heavy Industry: Medium beam for transfer area; Narrow beam for focused assembly; Supplementary light for workbenches.
2) Light Industry: Zonal configuration with dedicated task lighting at core workstations.
Smart control for adaptive dimming and energy management



Factory Scenario-based Solutions

Scenario-based Solutions： Warehouse Area

Reliable & Efficient Lighting for High-Throughput Warehousing

Packing / Sorting Area

Scenario-specific challenges：

Semi-outdoor environment with dust, moisture and temperature fluctuations
Variable mounting heights and structural interference from cranes and loading equipment
Daylight availability leading to inefficient full-power operation and energy waste

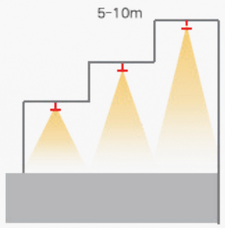
Design Objectives：

Ensure safe and efficient loading operations
Reduce energy consumption under daylight-driven conditions

Proposed Solutions:

Daylight-responsive intelligent control for adaptive dimming and energy, achieving 50%-70% energy savings.
Height-adaptive optical distribution ensuring uniform ground-level illuminance
IP65+ protection to eliminate environmental failure.





Storage Area

Scenario-specific challenges：

High racks create vertical shadowing and shelf-face visibility issues
Continuous large-area operation with unoccupied full-power mode leads to energy waste
High mounting height requires long-lifetime and low-maintenance solutions

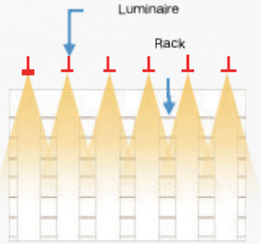
Design Objectives：

Ensure vertical visibility and picking accuracy
Achieve energy-efficient, low-maintenance warehouse operations

Proposed Solutions:

Aisle-focused optical design with vertical illumination enhancement
Zoned smart control with occupancy and daylight sensing
High-efficacy, long-lifetime luminaires (⩾50,000h)





Packing / Sorting Area

Scenario-specific challenges：

Mixed ceiling heights causing optical mismatch and uneven brightness
Continuous operation and equipment vibration affecting luminaire durability

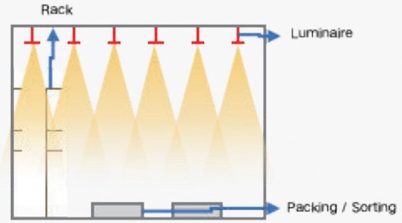
Design Objectives：

Improve sorting accuracy and operational efficiency
Ensure stable lighting performance under dynamic conditions

Proposed Solutions:

Zoned beam configuration (wide-beam ambient + medium-beam task lighting)
Low-glare optical control for visual comfort and inspection accuracy
Vibration-resistant industrial construction for long-term stability





Factory Scenario-based Solutions

Scenario-based Solutions： From Static Design to Adaptive Control

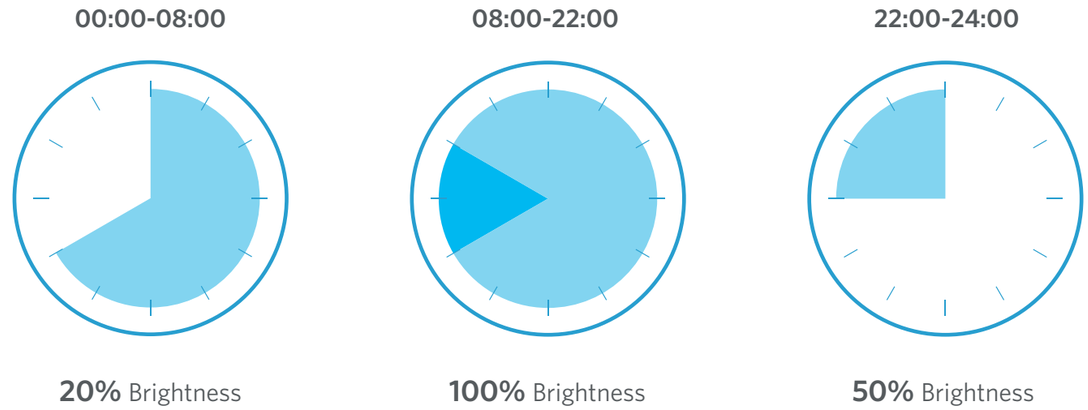
· Objective

Achieve Optimized Energy Performance

· Sulotion

Adaptive control (occupancy, daylight, scheduling) + centralized real-time monitoring and management.

	Fixed Workflow Mode	Flexible Workflow Mode
Production Area	**Labor-Driven:** Time-scheduled scene presets with occupancy-linked adjustment. **Automation-Driven:** Production-synced scheduling with baseline dimming，daylight integration and occupancy activation.	Scheduled baseline lighting with occupancy -triggered full illumination.
Warehouse Area		Skylight-integrated daylight harvesting with adaptive dimming and occupancy sensing.





Factory Scenario-based Solutions

From Scenario-based Solutions to Measurable Outcomes

As an illustrative case, a major production base of a globally recognized automotive components manufacturer， the factory face operational challenges：

High energy consumption；
Rising maintenance costs；
Misalignment with corporate sustainability targets

	Production Area（35603 ㎡）	Warehouse Area（14955㎡）
New Solution*	On-off LED Highbay P6: High-Efficiency Performance Industry-leading efficacy of up to 200 lm/W and 100,000-hour lifespan deliver low maintenance and reduced energy costs	Microwave Sensing Luminaire: Adaptive Intelligence Supports occupancy-triggered full illumination and delayed dimming after vacancy detection.
Fixture Power and Quantity Optimization	100–120W (1311 pcs)→ 50–85W (1103 pcs)	150W (330 pcs)→ 70W(302 pcs)
Illuminance optimization	340 lux → 530 lux	50 lux → 230 lux

TCO calculation*	Old Solution	New Solution
Initial investment（new fixtures）	/	￥746,031
Energy Costs（￥0.65/kWh）	￥1,492,290	￥629,593
Maintenance Costs (average per year)	￥43,800	/
Annual Costs (after initial investment)	￥1,536,090	￥629,593
Annual Savings	/	￥906,497
TCO（10 years）	¥ 15,360,900	¥ 7,041,961

ROI calculation* (New Solution)	
Investment	￥746,031
Annual Savings	￥906,497
Payback period	0.82 year

Environmental Savings* (over 10 years)	
Electricity	1,327,226 kWh per year
Emission	943,660 kg CO2 per year

*For illustrative purposes only. Actual results may vary based on project conditions.

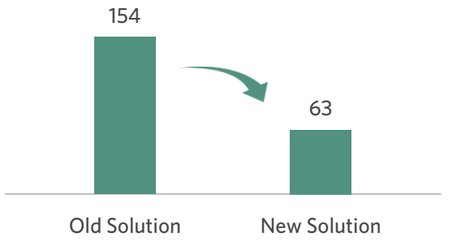
Safer Productivity

Optimal TCO, Proven ROI

Sustainable Performance

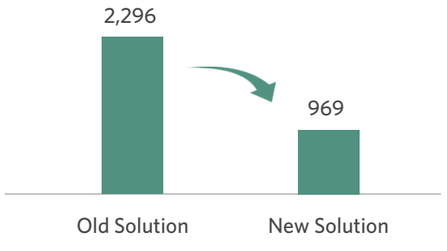
Annual Costs Reduction：

59%



Energy Saving Rate：

58%



Case Studies

Nederlandse Spoorwegen Maintenance Workshop, Netherlands

Lighting Retrofit Transforms the National Railway Maintenance Workshop with 75% Energy Reduction and Significant Cost Savings.







LED Highbay P6

· Challenge

Energy Cost Pressure

High industrial energy prices (€0.15–0.18/kWh) during the EU energy crisis rendered 400W HPL fixtures inefficient and costly.

Poor Lighting Quality

lumen depreciation resulted in a dim workspace.

High Maintenance Burden

Short HPL lifespan meant frequent replacements and high maintenance costs.

·Solution

Upgrade from HPL to LED Highbay P6

Adopted LED Highbay P6 featuring high efficacy, strong lumen maintenance, and extended service life as the upgrade solution.

Intelligent Control Integration

Sensor-based zoning, adaptive dimming, centralized management.

· Value

Outstanding Energy and Cost Saving

75%+ energy reduction； 825,000 kWh annual savings； Approximately €123,750 in annual cost savings.

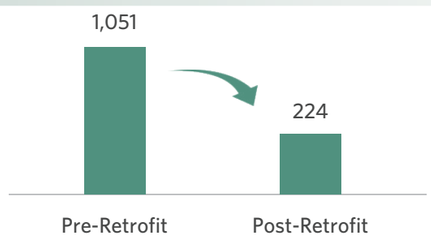
Sustainability Impact

205 tons CO_2 reduction annually.

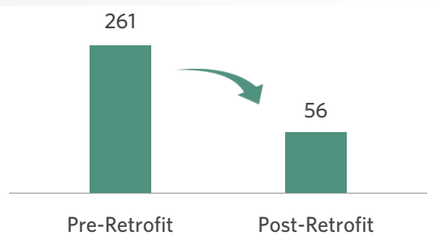
Improved Operational Efficiency

Uniform and brighter lighting ensures safety and efficiency； long lifetime reduces replacement frequency

Energy Saving Rate Exceeds 75%



CO_2 Reduction： 79%



Case Studies

Schaeffler Factory, China

Intelligent， High-Efficiency Lighting Infrastructure Drives 30% Energy Savings and Operational Excellence in Precision Manufacturing.





LED Waterproof P5

· Demand

Precision Manufacturing Support

Ensure stable, high-uniformity lighting aligned with high-accuracy production standards.

Energy & O&M Cost Optimization

Maximize energy efficiency while reducing long-term operational and maintenance costs.

Aligned with Architectural Daylighting

Ensure seamless coordination with the architecture's daylighting design.



LED Highbay P6



·Solution

High-Efficacy Industrial Fixture

LED highbay and waterproof with high efficacy.

Intelligent Lighting Management Platform

Integrated daylight harvesting, real-time monitoring, and adaptive dimming.

Centralized Smart O&M System

Remote diagnostics, automated fault reporting, and cross-building control.

· Value

Energy & Cost Efficiency

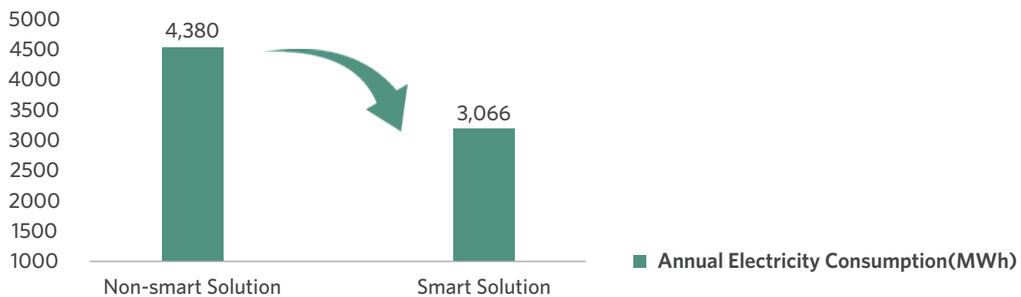
30% Energy Reduction； ¥800,000 Annual Cost Savings.

Operational Performance Enhancement

Uniform, high-comfort lighting improves productivity and quality control.

Intelligent O&M Optimization

Automated monitoring and fault reporting reduce maintenance workload and accelerate response time.



Case Studies

BYD Factory, Brazil & Indonesia





LED Highbay E3

Optimized Lighting Solution for the Automotive Painting Workshop Delivers

15%+ Energy Savings and Enhanced Quality Assurance



· Demand

Energy & Cost Control

Reduce energy consumption to meet cost-control objectives and green factory strategy.

Production Accuracy & Quality Stability

Ensure precise color matching and reliable detection of coating imperfections.

·Solution

High-Efficacy & High-CRI Lighting Deployment

LED Highbay E3：up to 150lm/W、CRI 80 （with high color rendering performance）

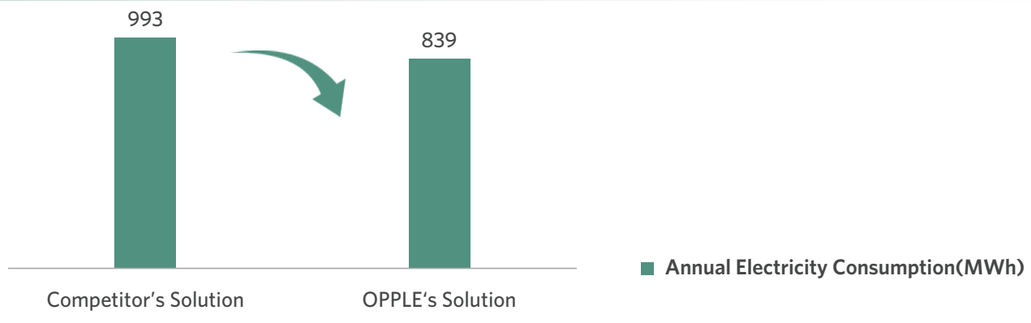
· Value

Energy & Cost Efficiency

15+ % Energy Reduction compared to Competitor's solution（in Brazil）

Paint Quality Assurance

Stable lighting environment improved surface defect detection and ensure consistent color evaluation.



System & Product & Service

Smart System

With OPPLE Smart Lighting, you can count on:

Flexible & Scalable Deployment

Fully wireless control based on Bluetooth SIG Mesh.

Rapid installation and easy system expansion.

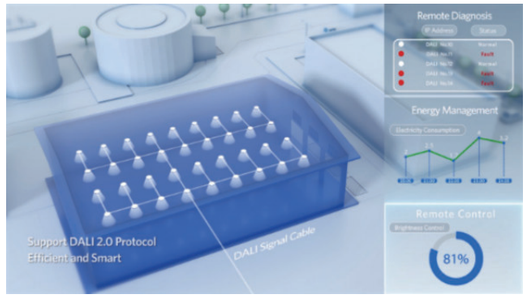


Energy-Optimized Operation

Smart sensors enabling occupancy- and daylight-based control.

Corridor mode and daylight balance for dynamic dimming.

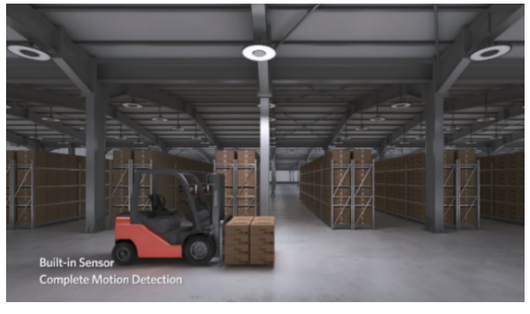
Multi-scene configuration tailored to operational needs.

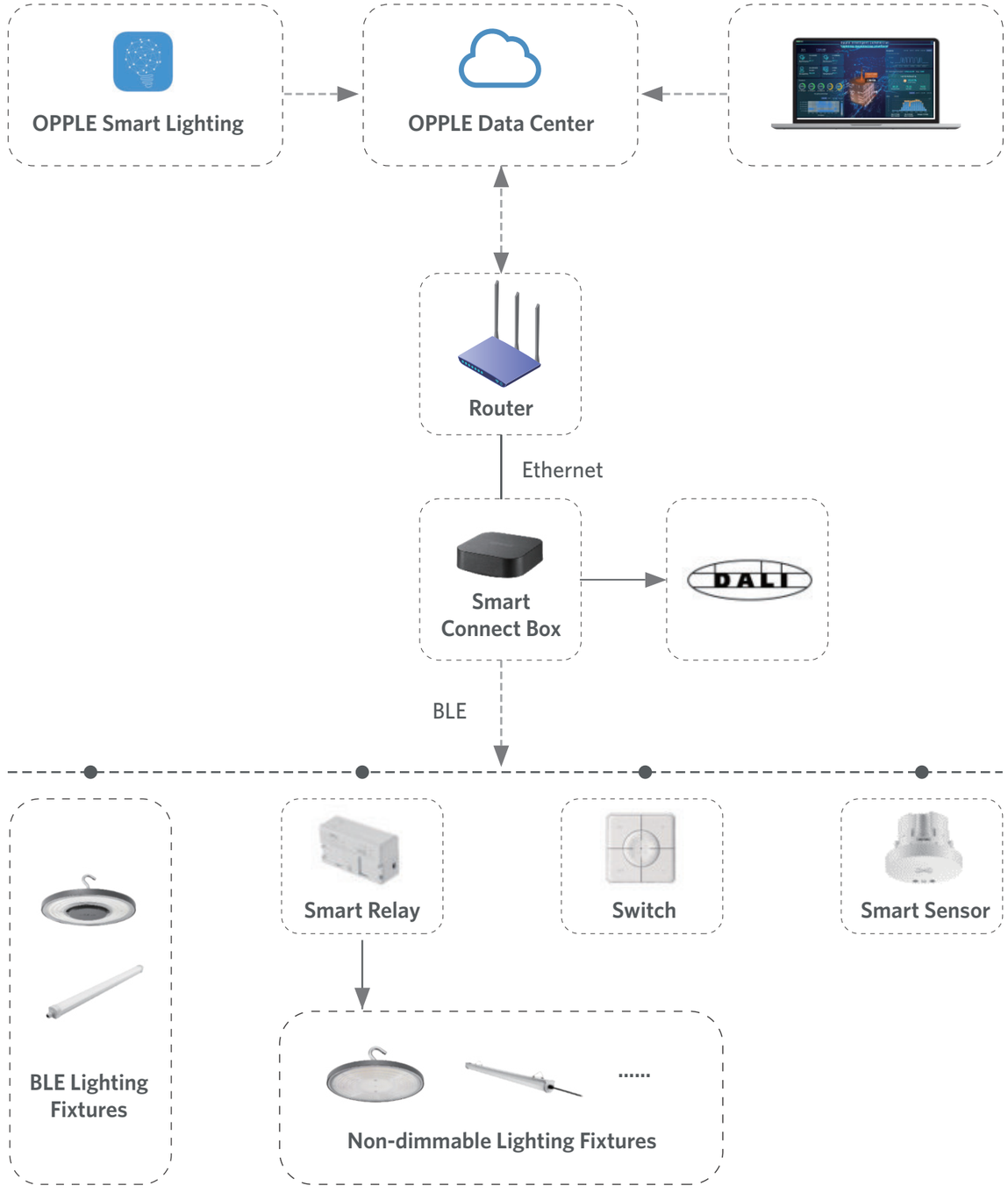


Secure & Reliable System Architecture

Encrypted signal transmission.

Strict user authorization management.





OPPLE Smart Lighting MAX

System & Product & Service

Product Portfolio

Scenario		Product Solution	Product Recommendation							
			 LED Highbay P6	 LED Highbay E3	 LED Lowbay EA&E4	 LED Waterproof P5	 LED Waterproof E3	 LED Waterproof U4	 LED Waterproof UQ3	 LED Waterproof U EP2
			Up to 200 lm/W 100K hours IP66, IK08	150 lm/W 75K hours IP65, IK08	Up to140 lm/W 30K hours IP43&20, IK08	Up to 170 lm/W 100K hours IP66, IK08	Up to 140 lm/W 50K hours IP65, IK08	120 lm/W 30K hours IP65, IK08	110 lm/W 30K hours IP65, IK06	IP65, IK08
Production Area	Primary Processing	Obstacle-Aware Optical Planning Layered Beam Distribution Industrial-Grade Reliability	Smart Configurable	✓		Smart Configurable				
	Precision Machining	Low-Glare Optical Control High-CRI & Flicker-Free Performance Task-Oriented Lighting Design	Smart Configurable			Smart Configurable	✓	✓	✓	
	Assembly	Functional Zoning Strategy Tailored Beam Configuration Smart Adaptive Control	Smart Configurable	✓		Smart Configurable	✓	✓	✓	
Warehouse Area	Inbound/ Outbound	Daylight-Responsive Control Height-Adaptive Distribution IP65+ Industrial Protection		✓			✓	✓		
	Storage	Aisle-Focused Optical Design Zoned Smart Sensing Long-Lifetime High-Efficacy luminaires	Smart Configurable	✓	✓	Smart Configurable	✓	✓	✓	✓
	Packing/ Sorting	Zoned Beam Configuration Glare-Controlled Uniformity Vibration-Resistant Construction	Smart Configurable	✓	✓	Smart Configurable	✓	✓	✓	✓

System & Product & Service

End-to-End Professional Services

OPPLE delivers end-to-end services across the full project lifecycle, combining advanced manufacturing, ETO customization, professional lighting design, and remote and on-site technical support to ensure superior project execution and long-term operational reliability.



- Pre-Implementation Phase

01 **Integrated Lighting Solution**
Comprehensive, tailored lighting solutions for diverse scenarios, integrating professional lighting design and customized ETO development to ensure technical precision, right-first-time delivery, and consistently high-quality lighting performance

- Implementation Phase

02 **Automated Manufacturing**
Intelligent, automated manufacturing to support reliable large-scale project delivery and consistent quality

03 **Quality Testing & Certification**
Comprehensive testing and international certification to ensure global compliance, reliable project acceptance, and long-term operation

04 **Logistics & Delivery**
Integrated supply chain and project management systems coordinating orders, production, and logistics to guarantee accurate, on-time delivery

05 **Technical Support**
Professional technical team providing remote and on-site support throughout the project, ensuring design intent, project quality, and long-term reliability

- Post-Implementation Phase

06 **After-Sales Service**
Professional after-sales engineering team with dedicated project support, collaborating across R&D, product, and design to quickly resolve issues, providing long-term technical and operational reliability

Connect With OPPLE

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