

# iLamp Roadmap for Liberia

This document covers information required to build a road map to commercial viability for the iLamp territorial license for Liberia.

# iLamp



Liberia Population  
**5.418 Million**

Required Streetlights  
**471,000**

Electricity Access  
**10%**

Enhanced lighting leads to significant and sustained reductions in both night and daytime outdoor crimes with a benefit cost ratio of 5.1–10.8.

On residential roads accidents are 58% more likely to be fatal in areas without street lights.

iLamp can reduce cities energy costs by 30–60% compared to traditional lighting.

Liberia, with its growing infrastructure needs and ambitions for nationwide electrification, faces unique challenges in road safety, public health, crime prevention, and energy access. With limited connectivity to a central power grid and a reliance on imported fuels, providing affordable, reliable electricity to communities remains one of Liberia's most pressing issues.

iLamp offers Liberia a transformative approach to addressing these challenges while creating significant opportunities for local economic development, energy independence, and sustainable growth. By leveraging its solar-powered and modular design, iLamp aligns perfectly with Liberia's development goals while fostering resilience against energy disruptions and climate change impacts.

iLamp's autonomous, solar-powered operation provides an ideal solution for Liberia's energy needs. With its ability to function independently of the grid, iLamp brings reliable lighting and power to areas with limited or no electricity. The device's quick, trenchless installation allows for a rapid rollout across the country, particularly in rural communities where power infrastructure is scarce or nonexistent. The ability to integrate seamlessly with microgrid solutions further enhances its potential, enabling efficient energy distribution and reducing reliance on expensive imported fuels.

Streetlighting is one of the most impactful and cost efficient infrastructure upgrades available. Studies show that improved lighting reduces accidents, increases pedestrian safety, and deters crime. For Liberia, iLamp's advanced design offers an unmatched return on investment by simultaneously addressing safety, sustainability, and urban development. Safer roads, better-lit neighborhoods, and enhanced public spaces contribute to a higher quality of life and attract investment to communities across the country. Additionally, improved lighting encourages extended business hours, creating opportunities for economic activity and supporting local entrepreneurs.

iLamp's commitment to local manufacturing and innovation positions Liberia as a hub for sustainable energy solutions. By establishing microfactories and partnering with local suppliers, iLamp creates skilled jobs, promotes regional economic growth, and keeps manufacturing profits within the country. Local

[iLamp.com](http://iLamp.com)  
[ILOCX.com/iLamp](http://ILOCX.com/iLamp)



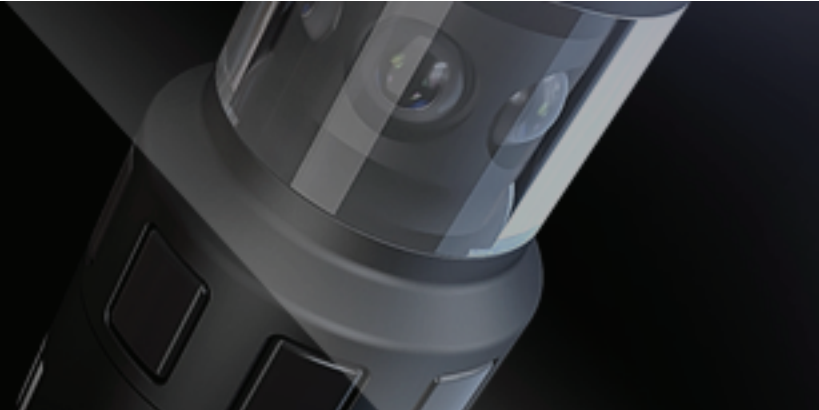
Follow us  
[@officialilamp](https://www.instagram.com/officialilamp)

[ConFlowPower.com](http://ConFlowPower.com)  
[Batteryware.com](http://Batteryware.com)  
[PowerasaService.com](http://PowerasaService.com)  
[Droneready.com](http://Droneready.com)  
[Investinbatteries.com](http://Investinbatteries.com)  
[ILOcasestudy.com](http://ILOcasestudy.com)



*Creativity is the power to correct the seemingly unconnected.*

- William Plomer

A close-up photograph of an iLamp streetlight. The light fixture is cylindrical and metallic, with a lens at the top. It is mounted on a dark, textured pole. The background is dark and out of focus.

Estimated Streetlights  
**11,000**

Streetlight Shortfall  
**460,000**

Liberia Area  
**111,370 km<sup>2</sup>**

---

Streetlights account for approximately 20-40% of a city's total energy expenditure, making them one of the most significant energy costs for urban areas.

ELS Compliant street lighting enhances public health by encouraging physical activity, supporting safe movement after dark, fostering a greater sense of security, and reducing anxiety, thereby creating healthier and more vibrant communities.

production reduces the cost of importing infrastructure components while building technical expertise and strengthening Liberia's industrial base.

Beyond domestic applications, Liberia can become a leader in modular development, designing and exporting hardware tailored to African markets. iLamp's app and module store inspire local innovation, enabling Liberians to address regional challenges—such as agricultural monitoring, climate data collection, and educational tools—while creating new revenue streams. By deploying iLamp solutions across Liberia and expanding production capabilities, the country can serve as a model for sustainable development in West Africa, positioning itself as a key exporter of streetlighting and microgrid solutions to neighboring countries. This fosters cross-border economic collaboration, enhances Liberia's reputation in the region, and attracts foreign investment.

Improved streetlighting has proven to significantly reduce crime, providing safer environments for children to study, businesses to thrive, and communities to gather after dark. iLamp enhances these outcomes with its advanced monitoring and reporting capabilities, enabling real-time data collection on traffic, environmental conditions, and public safety. These capabilities not only support better infrastructure planning but also contribute to the creation of smarter, more connected cities.

By using renewable solar energy, iLamp significantly reduces greenhouse gas emissions and reliance on fossil fuels. Its modular design ensures that iLamp units can be easily upgraded with the latest technologies, making them future-proof and adaptable to evolving needs. This long-term sustainability aligns with global climate goals while addressing Liberia's energy challenges in a cost-effective manner.

The extended lighting hours enabled by iLamp have a profound impact on education, providing children with safe and well lit environments to study at home. Communities gain access to spaces that foster social interactions, encourage cultural activities, and improve overall well-being. In rural areas, iLamp can enable communication hubs, helping isolated communities stay connected and informed.

# The iLamp

## What is iLamp?

iLamp is a groundbreaking, self powered, modular, and enhanced lighting solution designed to address multiple urban challenges. By integrating autonomous power generation capabilities, and monetizing them iLamp is easy to install anywhere and alleviates grid strain, contributing to energy sustainability. By using Power as a Service to bill for this energy, iLamp generates its own revenue. Its modular design supports a wide range of smart city applications, offering further monetization opportunities and revenue streams and making it a future proof solution for urban infrastructure.

Equipped with low profile, cylindrical solar panels, iLamp harnesses renewable energy, storing it in batteries for efficient distribution. This setup powers street lighting but also supports various smart sensors and modules, eliminating transmission costs and reducing emissions to zero.

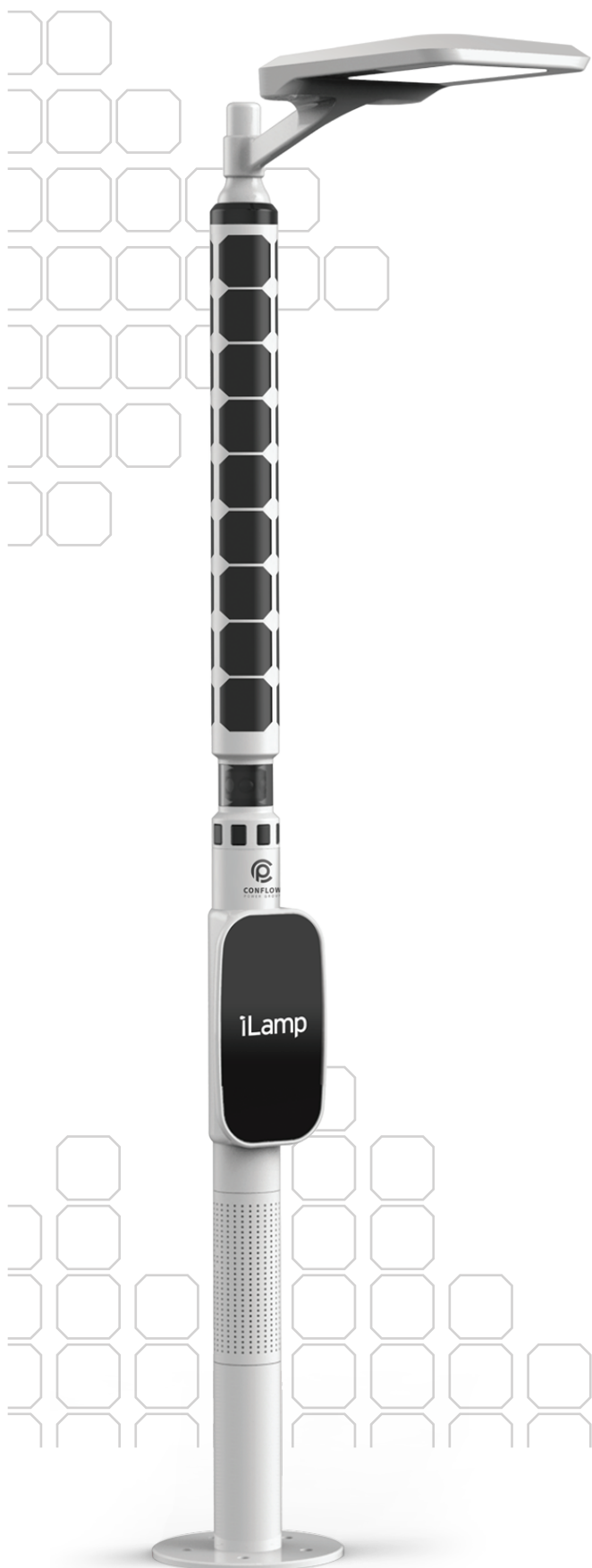
Each iLamp is customizable to meet the needs of different neighborhoods—supporting add-ons like 5G WiFi, traffic management, CCTV, environmental sensors and a plethora of other modules, sensors and software. This modularity ensures a quick, plug-and-play setup, making it adaptable and future proof and providing licensee's with various upsells and benefits.

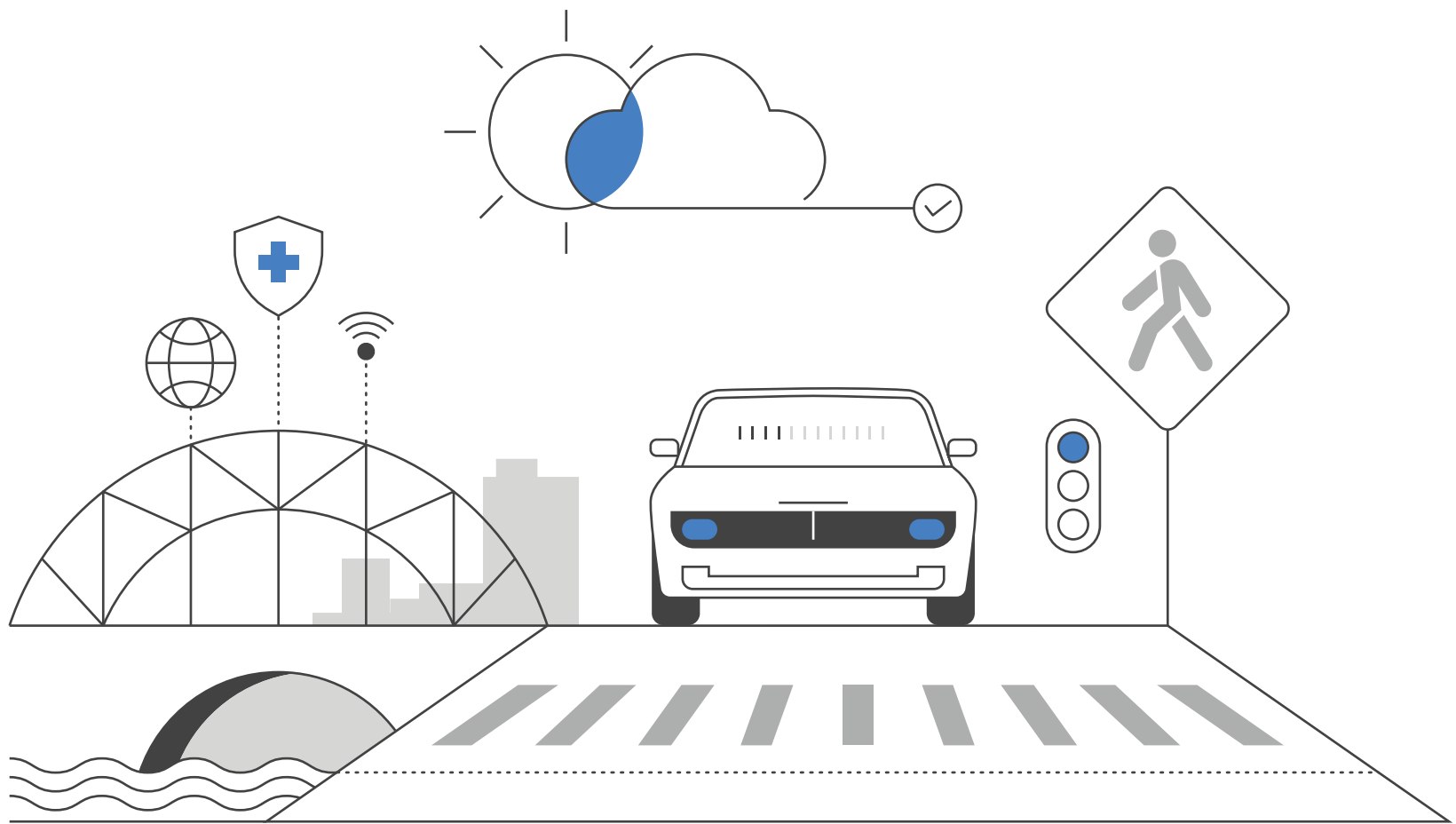
iLamp qualifies as enhanced street lighting, which has been shown to reduce crime by 20-40%. Implementing iLamp can therefore significantly reduce various crimes and improve public safety which improves quality of life and stimulates local economies.

Through its App and Module Stores, iLamp is a dynamic framework for unlocking hardware and software ingenuity, similar to how Google Play and Apple App Store revolutionised smartphones capabilities.

iLamp is not just a streetlight; it is a comprehensive urban solution and strategy designed to enhance safety, sustainability, and spur economic growth. By leveraging advanced technology and modular design, iLamp offers a future proof infrastructure that adapts to evolving needs, making countries, cities, towns and neighbourhoods around the globe safer, more attractive, and better connected.

Whether through crime reduction, safety, economic stimulation, or health and environment benefits, iLamp stands as a beacon of innovation in urban development, illuminating the future it unlocks.





## The iLamp

### Why iLamp?

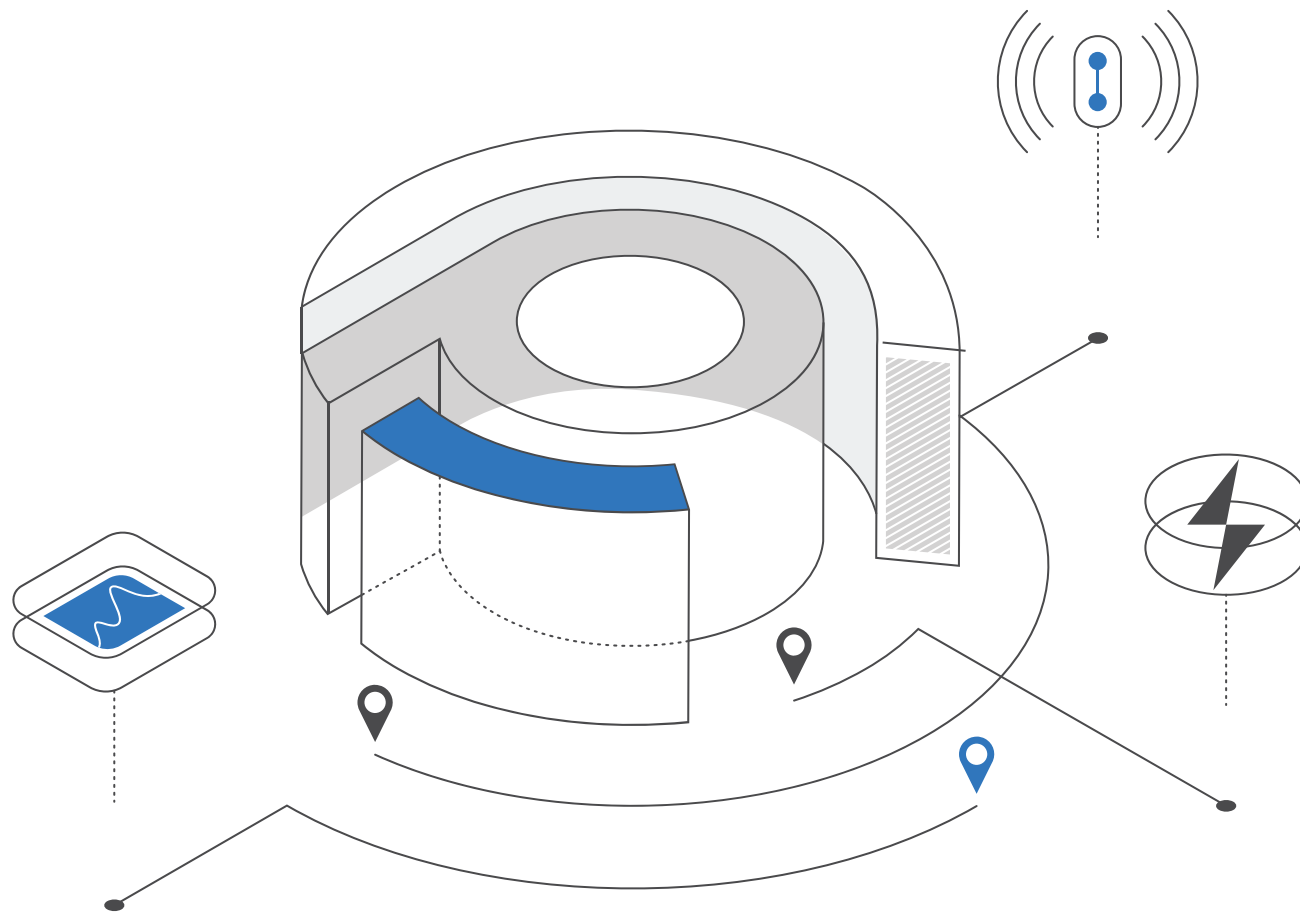
iLamp has a transformational effect on communities making them safer, more prosperous, social and desirable. It is the single most cost effective improvement any country, city, town or neighbourhood can make, offering multifaceted benefits that dramatically outweigh its costs.

**Saves Lives:** On both streets and the road. Pedestrian and driver fatalities are 58% more likely on unlit roads. By providing enhanced illumination iLamp protects both the community and road users.

**Decreases Crime:** iLamp improves visibility, studies have shown that this enhanced street lighting leads to sustained reductions in crime rates of over 40%. Implementing iLamp improves crime rates, deters potential crimes, creating safer, more welcoming public spaces that can be used after dark, encouraging outdoor activities, social interactions and commerce.

**Increases Property Values:** Street lighting correlates with increased property values - with each 1% reduction in crime leading to an approximate 0.5% to 1% increase in property values.

**Creates Jobs:** iLamp sublicensing creates and inspires local jobs that keep money within the communities they serve, creating a virtuous cycle. Sublicensing can be made available down to a neighbourhood or zip code level.



## The Power of Conflow

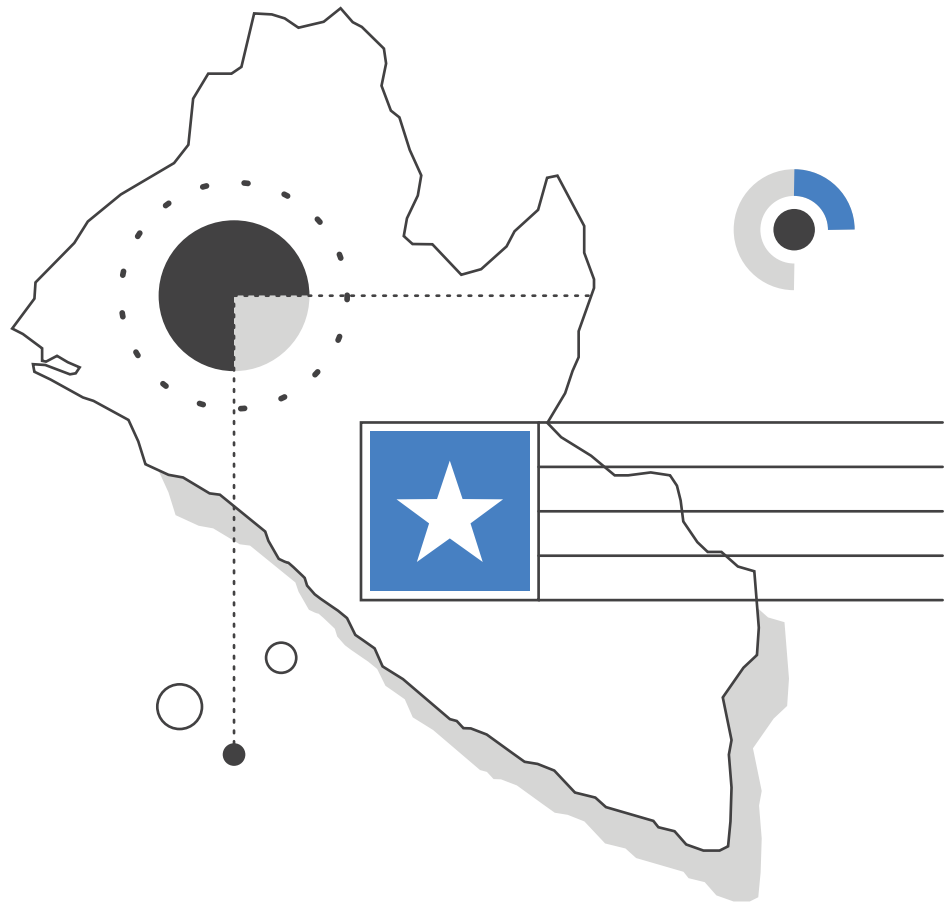
### Flagship Product of a Global Technology Aggregator

iLamp is the flagship product of the Conflow Power Group, a company with extensive global manufacturing capabilities, years of experience in product development, electronics, technology aggregation and strategy. Conflow Power Group focuses IoT and smart city solutions, owning several key technologies that make iLamp possible, ranging from advanced electronic modules and power management systems to battery monitoring, automatic lighting, LED technologies and software.

Conflow Power Group collaborates with several external developers to adapt their technologies for iLamp, providing a comprehensive development kit and specifications to support these innovations. This collaboration has led to a robust, established ecosystem surrounding every key aspect of streetlighting. Additionally, iLamp integrates a variety of smart city applications, making it the most comprehensive streetlighting solution available.

The company is committed to future innovation, with several new products in development, continually enhancing the capabilities and applications of iLamp. This ensures that iLamp remains at the forefront of smart city technology, offering unmatched performance and versatility in lighting solutions. iLamp is not only a product, but a strategy that has spawned an entire ecosystem of revenue generating activity for license holders to participate in.





## The Liberian Opportunity

Liberia faces unique challenges in energy access, infrastructure, and community safety. Less than 2% of the population has access to electricity, and even in Monrovia, only 6.7% benefit from reliable power. These constraints affect safety, economic development, and quality of life. Enter iLamp Liberia, a smart streetlight solution offering a resilient, grid-independent approach to lighting, energy, and innovation tailored to Liberia's needs.

### Lighting the Way for Safer Communities

Crime and safety are pressing concerns in Liberia, where limited street lighting exacerbates risks in urban and rural areas. iLamp, certified with the Enhanced Lighting Standard (ELS), is a proven technology capable of reducing crime by up to 40%. Its self-powered, solar-operated system guarantees light even during power outages, providing communities with a dependable source of illumination that saves lives, improves safety, and fosters public trust.

### A Self-Sufficient Energy Solution

Unlike traditional streetlights reliant on unreliable grid connections or expensive diesel generators, iLamp generates its own power through self-cleaning cylindrical solar panels. Designed to withstand Liberia's harsh environmental conditions—dust, heavy rains, and flooding—iLamp operates seamlessly

---

year-round. Each unit functions as a miniature microgrid, producing renewable energy where it is needed most, reducing reliance on fossil fuels, and lowering community energy costs.

### **A Platform for Local Innovation**

iLamp is more than just a streetlight. Its modular design and integrated sensors allow for advanced functionalities, such as environmental monitoring and public safety tools, tailored to local needs. Developers can create plug-and-play modules and submit them to the iLamp App Store, fostering innovation while generating revenue. This makes iLamp not just an energy solution but a marketplace for capabilities, enabling communities to harness cutting-edge technology for real-world problems.

### **Supporting Liberia's Energy Transformation**

Liberia's energy sector is undergoing reconstruction following years of civil war, with initiatives like the Mt. Coffee Hydropower Plant aiming to expand grid capacity. Yet, high tariffs and diesel dependence remain barriers to widespread energy access. iLamp bypasses these constraints with localized, renewable energy solutions, accelerating the nation's path toward energy independence.

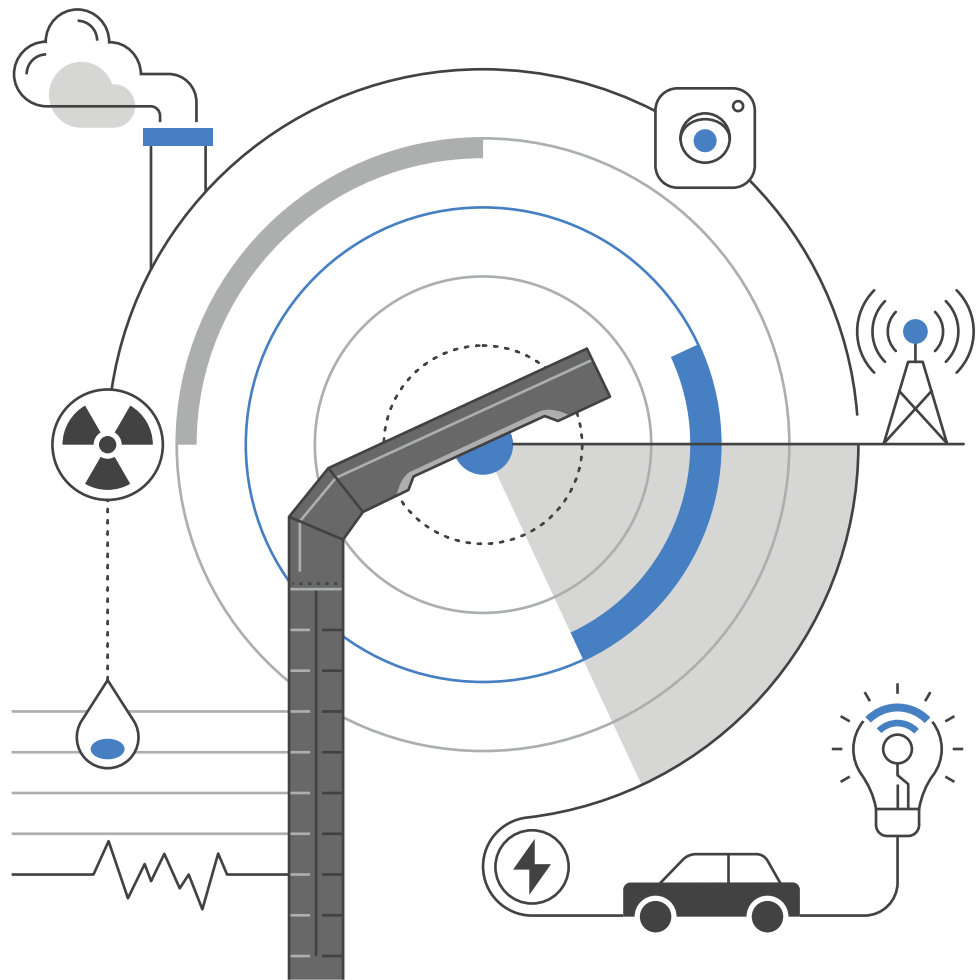
### **Economic Growth Through Local Manufacturing**

To further embed itself in the local economy, iLamp plans to establish micro-factories in Liberia. These facilities will produce and customize streetlights, creating jobs and enabling communities to shape the design and functionality of their lighting systems. This high-mix, low-volume production model not only reduces environmental impact but also ensures that iLamp reflects the unique character of Liberia's neighborhoods.

### **A Brighter, Resilient Future for Liberia**

iLamp Liberia is more than a lighting solution; it is a pathway to a brighter, safer, and more sustainable future. By addressing energy shortages, reducing crime, and fostering local innovation, iLamp empowers communities to thrive. Together with Liberia, iLamp is lighting the way to resilience, energy independence, and opportunity.





## Public security and health



### Road Safety & Traffic

iLamp improves road safety, decreasing road fatalities of both road users and pedestrians. iLamp's optimal lighting enhances safety during peak low light hours and adverse weather conditions. Modular camera and communications systems can help monitor traffic, detect potential hazards, and improve response times to accidents, improving road safety and reducing traffic.



### Pedestrian Safety & Crime Deterrence

iLamp deters crime and increases pedestrian visibility by providing lighting in areas such as sidewalks, crosswalks, and public transportation stops. Modular cameras can be used to monitor pedestrian movement and help identify potential hazards or security threats in real time ensuring safer pedestrian environments.



### Weather Monitoring Module

Weather sensors can detect changing weather conditions, such as storms, fog, rain, or snow, and adjust the intensity and distribution of light accordingly. This adaptability enhances visibility for drivers and pedestrians in adverse weather conditions, further improving public safety.

---

 **Air Quality**

Air quality monitoring can help track pollution levels in real time, allowing authorities to implement appropriate measures to limit exposure and maintain a healthy environment. By monitoring and addressing air quality concerns, iLamp contributes to improved broader public health and well being.

 **Communications**

Communication modules can both expand telecoms coverage and facilitate the transmission of critical information to the relevant authorities and emergency services in case of accidents or security incidents. Creating a comprehensive and interconnected network enabling authorities to monitor and manage various aspects of urban living more effectively. This network of sensors can lead to improved decision making, more efficient use of resources, and a better understanding of the

 **Light Pollution Reduction**

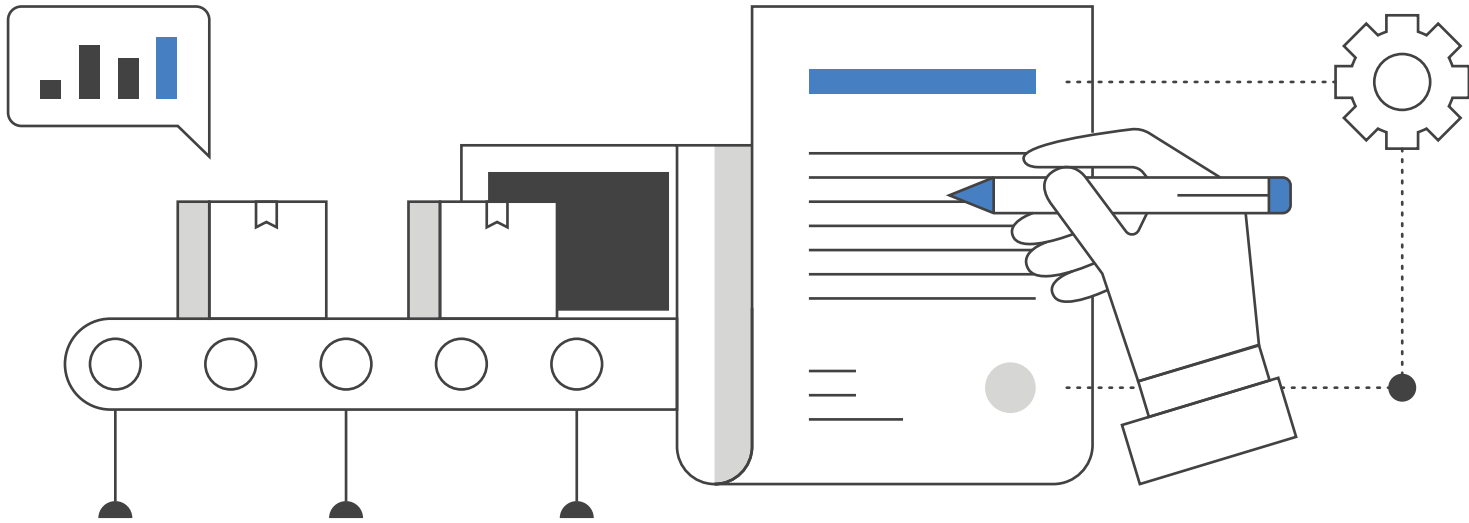
The adaptive lighting capabilities of iLamp can minimize light pollution by adjusting brightness levels according to the time of day and surrounding conditions. This can contribute to a better night-time environment, reducing the impact of artificial light on wildlife and human health.

 **Integration with Existing Infrastructure**

iLamp technology can integrate with existing sensors and infrastructure, allowing for enhanced data collection and analysis. By connecting iLamp with sensors a modules facilitating parking, traffic management, telecommunications structural, UV and noise monitoring, fire, leak and flood detection, grid management and many more.

 **Public Protection**

iLamp can host smoke, gas, gunshot detection, thermal imaging and communications modules, enabling the quick detection of public safety hazards, such as wildfires, shootings, gas leaks or explosions, these can then be relayed in real time via the communication module to the relevant authorities, enabling faster, more targeted and data driven responses.



## License holder benefits

### 1. First Refusal on Conflow Power Group Innovations:

Territorial holders will be at the forefront of any technological advancements or innovations developed by the Conflow Power Group. This means that before any new feature, product, or service is rolled out to the broader market, territorial holders have the exclusive opportunity to adopt, integrate, or decline them. This not only provides an edge over potential competitors but also ensures that each territory is equipped with the latest in energy and infrastructure solutions.

### 2. Local Manufacturing Capabilities:

One of the standout privileges for territorial holders is the ability to establish local manufacturing units. This initiative not only contributes to local economic growth but also ensures quicker response times for installations, maintenance, and replacements. With local manufacturing, territorial holders can control the quality, reduce delivery times, and tailor-make solutions suitable for their region's specific needs.

### 3. Comprehensive Rights Granted

Rights to manufacture, distribute, market, sell. iLamp. Rights to operate the iLamp App and Module stores. Rights to operate PaaS contracts. Rights to a supply line for a guaranteed number of lamps.

### Competitive Edge Against iLamp HQ:

By establishing local manufacturing, territorial holders, depending on local market conditions, may be able to produce iLamps at competitive prices, thereby posing healthy competition to iLamp HQ via the allowed sale of

---

these lamps to other territories. This encourages market dynamics that can lead to additional revenue streams, as well as continuous improvements in the product, better pricing strategies, and an overall enhanced offering for end customers.

#### **4. Access to Wider Network of Territorial Rights Holders:**

Being a territorial rights holder means more than managing a region; it's an entry point into a global network of iLamp territories. This worldwide community unlocks avenues for collaborative projects and joint ventures but also creates a global marketplace where territories can showcase their own modules, technologies and solutions.

#### **5. Distributing Locally Developed Technologies:**

Territorial holders aren't restricted to what iLamp or Conflow offers. They can innovate, create, or license their own technologies for integration into the local iLamps. Once developed, they can distribute these innovations to other territorial holders both nationally and internationally. This not only diversifies their revenue stream but also places them in a position of influence within the iLamp community.

#### **6. Charging Margins on Distributed Technologies:**

When distributing their locally developed or licensed technologies to other territories, holders can charge a margin on those solutions. This is a direct revenue generation model that rewards innovation and the entrepreneurial spirit of the territorial holder.

#### **7. Early Mover Advantage:**

Territories that adopt iLamp's solutions early will naturally have a head start. As pioneers they gain first hand experience, establish best practices, and develop a robust infrastructure that later entrants will look to emulate. This experience positions them strongly not just as market leaders in their territories but also as potential consultants or partners for newer entrants.

#### **8. Preferential Rates on Modules and Software Solutions:**

One of the defining advantages for territorial holders is access to preferential rates on various modules and software solutions. iLamp HQ, recognizing the strategic importance of territories and their contribution to the global

---

ecosystem, extends these rates as a token of partnership and collaboration.

When iLamp HQ or any other territory negotiates with third-party vendors or develops in-house solutions, the benefits of bulk purchasing or shared development costs are passed on to the territorial holders. This means lower acquisition costs, which can be a substantial financial benefit.

## **9. Collective Bargaining Power:**

The collective might of all the territorial holders allows them to exert a greater influence when negotiating rates or features with software and module providers. This collaboration ensures that all territories, irrespective of their individual size or bargaining power, get to leverage the combined strength of the entire iLamp community.

## **10. Access to a Repository of Solutions:**

Territorial holders will have access to a vast repository of modules and software solutions developed or sourced by iLamp HQ and other territories. This curated collection ensures that territories do not have to start from scratch or waste resources in reinventing the wheel. They can simply choose from tried and tested solutions, making the deployment faster and more efficient.

## **11. Continuous Updates and Upgrades:**

Technology is ever-evolving, and in the world of smart urban solutions, staying updated is crucial. Territorial holders will continuously receive updates and upgrades on the modules and software solutions from both iLamp HQ and other territories. This ensures that the iLamp infrastructure in each territory remains modern, efficient, and in line with the latest technological advancements.

Territorial holders of iLamp are in a prime position to not just capitalize on the opportunities provided by Conflow Power Group but also to shape the future direction of energy solutions in their region. Their benefits extend beyond revenue generation to establishing a stronghold in the ever-evolving world of sustainable energy solutions.



## iLamp Add Store for Urban Innovation

iLamp stands at the forefront of urban technological evolution with its Add Store, akin to how the Google Play and Apple App Store redefined the landscape of software applications. iLamp transcends its primary function, unfolding as a dynamic framework for both hardware and software ingenuity.

### Innovative Solutions

In the iLamp ecosystem combinations of hardware and software create transformative solutions for urban challenges. For instance, integrated microphones in iLamps enable a software application for gunshot detection and triangulation, providing precise location data for rapid law enforcement response, enhancing public safety. Similarly, iLamps equipped with smoke and heat sensors can detect early signs of forest fires, allowing for prompt alerts to residents and emergency crews, significantly mitigating fire damage and safeguarding communities. Motion sensors and cameras on iLamps optimise traffic flow through AI-driven analysis of traffic patterns, reducing congestion and accident risks, and contributing to a more environmentally friendly urban environment. These examples exemplify iLamp's potential in revolutionising urban living through smart, integrated technology solutions.

---

## Empowering Local Innovation, Impacting Globally

While iLamp's immediate influence is local, enhancing public spaces with smart lighting, its potential for global technology dissemination is significant. This model encourages local developers to contribute to a growing repository of modular solutions, potentially setting new standards in urban technology and smart city development.

## Creating a Sustainable Ecosystem

The beauty of the iLamp model lies in its economic and collaborative structure. Territorial holders stand to gain considerably, capturing over 20% of the revenue from apps developed in their region, incentivising territorial holders to promote innovation within their locale but also allowing them to include these novel solutions in their sales pitches, thereby broadening their offer to clients. This creates a symbiotic ecosystem where territorial holders, developers, and end-users benefit mutually.



### Intelligent Lighting

iLamp's intelligent lighting app ensures the correct lighting level for the area it's positioned in, adapting to visibility and weather.



### Power As A Service

PaaS redefines how energy is generated, distributed, and monetized on each iLamp.



### Communications Billing

Communications billing enables each module to pay only for the data it uses, as well as for open WiFi network billing.



### Batteryware Monitoring And Optimisation

BatteryWare conducts comprehensive monitoring, and real-time analysis to ensure optimal battery conditions.



### Video Surveillance

Video surveillance enables remote real time monitoring, motion detection, high definition video, smart alerts and integrations.



### Weather Monitoring

Weather monitoring uses environmental sensors to act as a local weather station, relaying real time data to stakeholders.



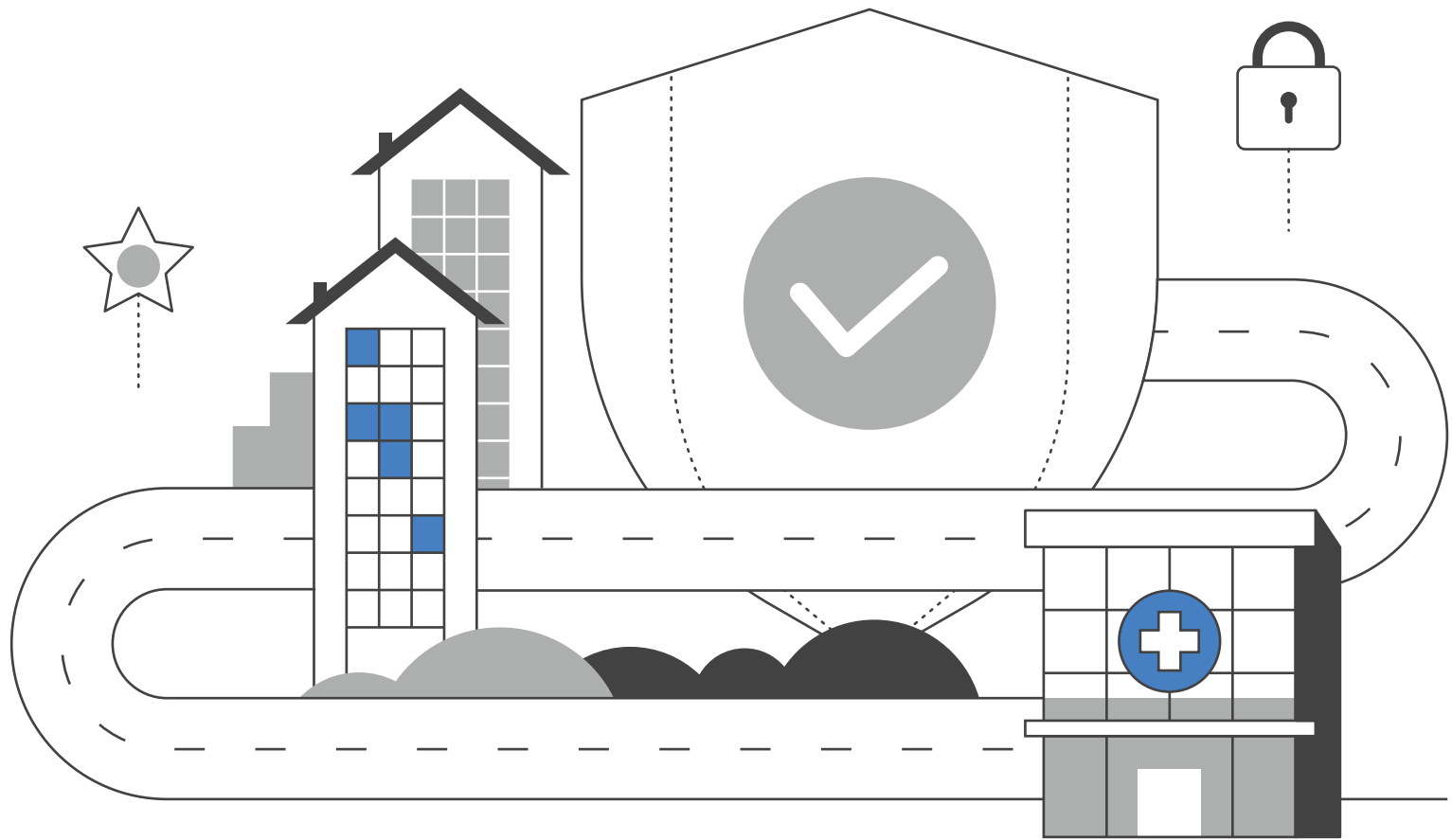


## Power as a Service

Power as a Service (PaaS) is a payment processor connected to an energy management and distribution solution which was designed from the ground up to manage clean kilowatt hours (kWh) of locally produced and consumed power. PaaS enables the generation, metering, and monetization of this localised power on a decentralized basis between varied stakeholders.

Each iLamp unit is equipped with solar panels that harness renewable energy, storing it in batteries for efficient distribution. This setup not only powers the streetlighting but also supports a variety of smart sensors and modules. These modules may include cameras, environmental sensors, weather stations, and telecommunications devices which all use power, and all may have separate billing accounts with PaaS. By metering energy generated and consumed by each device PaaS enables a new paradigm where power can be locally generated for local consumption, eliminating transmission costs and emissions to near zero.

Under the PaaS model, the iLamp licensee can create PaaS contracts that delineates roles for both power suppliers and power users. Much like traditional utility models, these contracts enable accurate billing based on actual energy consumption, this is a significant step towards redefining how energy is generated, distributed, and monetized in the modern era and a crucial extra revenue stream which can be explored by iLamp licensees.



## Enhanced Street Lighting

Studies have shown that improved/enhanced street lighting reduces crime by 20-40%, making enhanced lighting the single most effective way to lower crime while also increasing pedestrian and road safety.

Specific studies indicate:

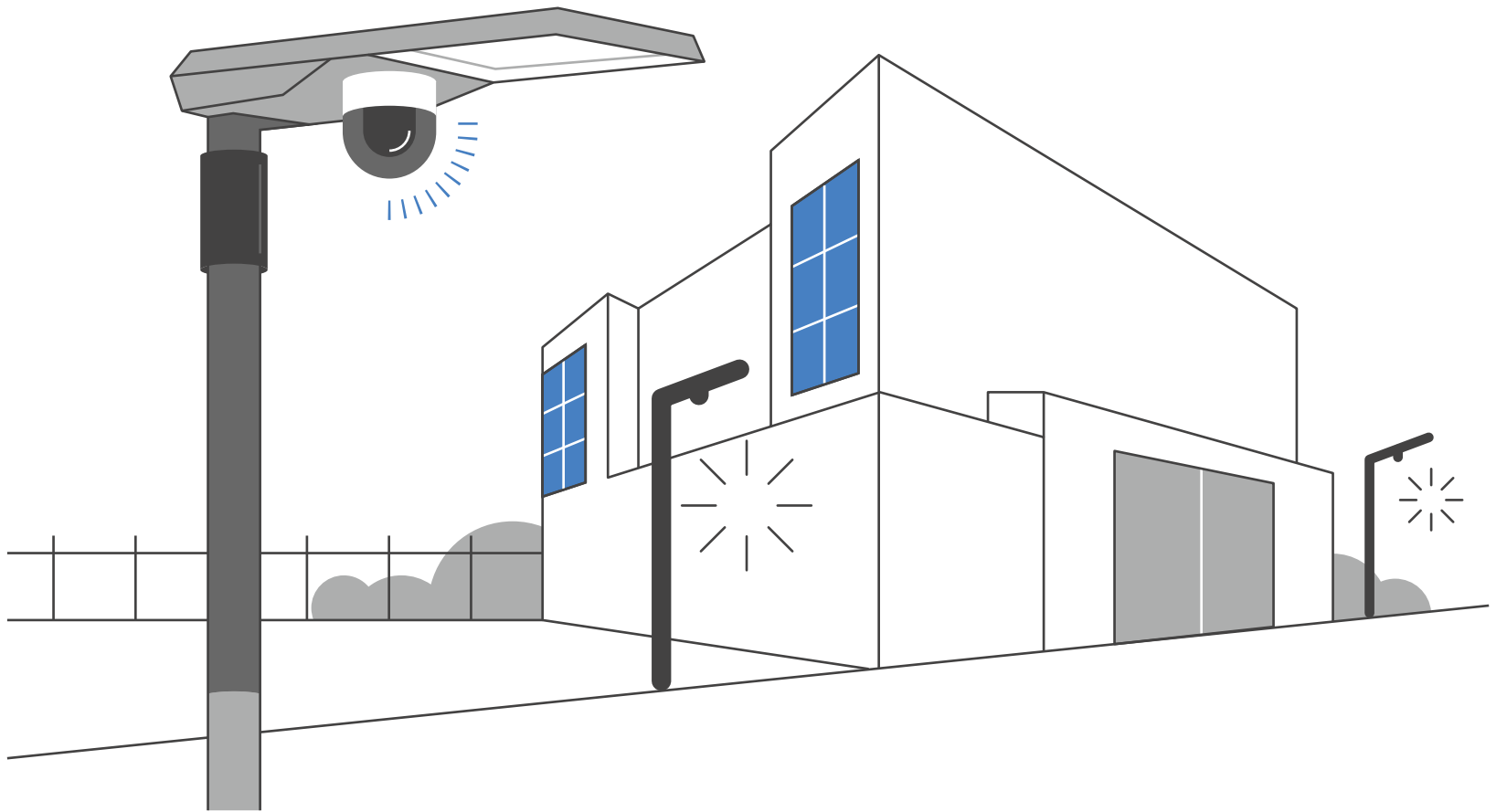
**UK Home Office:** 20% reduction in crime, including vehicle-related crimes.

**U.S. Study:** Published in *Criminology & Public Policy* showed 45% reduction in nighttime index crime and a 39% reduction in daytime index crimes following enhanced lighting installation.

Enhanced street lighting could lead to a significant reduction in crime rates, potentially by 20-30%. This includes reductions in various types of crimes such as vehicle theft, property crimes, and violent crimes.

For every 1% reduction in overall crime, a 0.5% to 1% increase in property values is expected.

Enhanced lighting not only increases property values significantly in previously unlit or poorly lit areas but lead to further economic stability and growth by attracting businesses and improving the quality of life for local residents. The increase in property values and improved safety drive more investments in the local infrastructure and services.



## The iLamp Effect

Imagine a neighbourhood with above average crime, where after dark the streets feel unsafe and are inadequately lit.

People avoid the area, the perceived danger deters people from frequenting local businesses, which in turn close earlier or shutter permanently. The neighborhood loses its vibrancy and appeal, leading to declining property values and further disinvestment. People leave for brighter pastures.

Now imagine iLamp's are installed, their enhanced lighting and cameras begin to deter crime, first due to the lighting, monitoring, and then due to the larger presence of people who now feel safe walking the streets.

This reduction in crime leads to a domino effect: as people feel safer, they are more likely to walk around, visit local businesses, and participate in community activities. This increased presence of people further deters criminal behavior, creating a safer and more welcoming environment.

Better street lighting also contributes to road safety. Well lit streets significantly reduce the likelihood of traffic accidents and pedestrian casualties. Emergency services, including police, firefighters, and medical personnel,

---

benefit from improved visibility, allowing them to navigate the area more efficiently and locate incidents quickly. This enhanced response capability saves lives and mitigate the severity of emergencies.

As safety improves, the community begins to experience a revival. People start to move into the area, attracted by the now safer and more appealing environment. This influx of residents drives up property values and stimulates the local economy. Businesses extend their operating hours, taking advantage of the increased foot traffic and nighttime activity. Public transportation becomes more accessible and reliable, allowing residents to shop, socialize, and commute safely after dark. This increased mobility to a higher quality of life and a more vibrant community atmosphere.

iLamp is not only functional, but aesthetically pleasing. They can be positioned to highlight architectural features and are designed to minimize light pollution, creating a pleasant nighttime atmosphere.

iLamp modules make each lamp future proof, and can tailored to the community's needs. For instance, environmental sensors can help allergy sufferers by providing real-time air quality data. Other modules can offer early warnings for forest fires, gas leaks, and extreme weather events, enhancing overall safety and preparedness.

This story is backed by the hard evidence of communities around the world that have undergone this transformation:

The Impact of Street Lighting on Crime, Fear, and Pedestrian Street Use - by Kate Painter - Institute of Criminology, University of Cambridge, UK  
[https://popcenter.asu.edu/sites/default/files/137-painter-the\\_impact\\_of\\_street\\_lighting\\_on\\_crime\\_fear\\_an.pdf](https://popcenter.asu.edu/sites/default/files/137-painter-the_impact_of_street_lighting_on_crime_fear_an.pdf)

College of Policing - Improved Street Lighting <https://www.college.police.uk/research/crime-reduction-toolkit/street-lighting>

Can deterrence persist? Long-term evidence from a randomized experiment in street lighting - Criminology and Public Policy



## iLamp Sales, Installs, and Maintenance

iLamp sales represent the largest revenue producing activity for licensees, providing them with a lucrative opportunity in the rapidly growing smart lighting market. To support sales efforts, iLamp offers comprehensive resources including sales proposals, branding kits, detailed product information, and benefit training resources. Additionally, licensees receive guides on available grants and best practices for approaching towns, counties, and municipalities, ensuring they are well-prepared to begin sales activities immediately.

iLamp products can be sold to a diverse range of public and private entities. Potential clients include public streets and highways, educational campuses, parks and recreational areas, parking lots, hotels and resorts, industrial estates and factories, hospitals and healthcare facilities, residential developments, train stations and railway networks, airports and ports, shopping complexes and malls, small businesses, stadiums and arenas, pathways and cycleways, homeowners associations and many more.

This broad market base provides licensees with extensive opportunities to secure contracts and drive significant sales revenue.

---

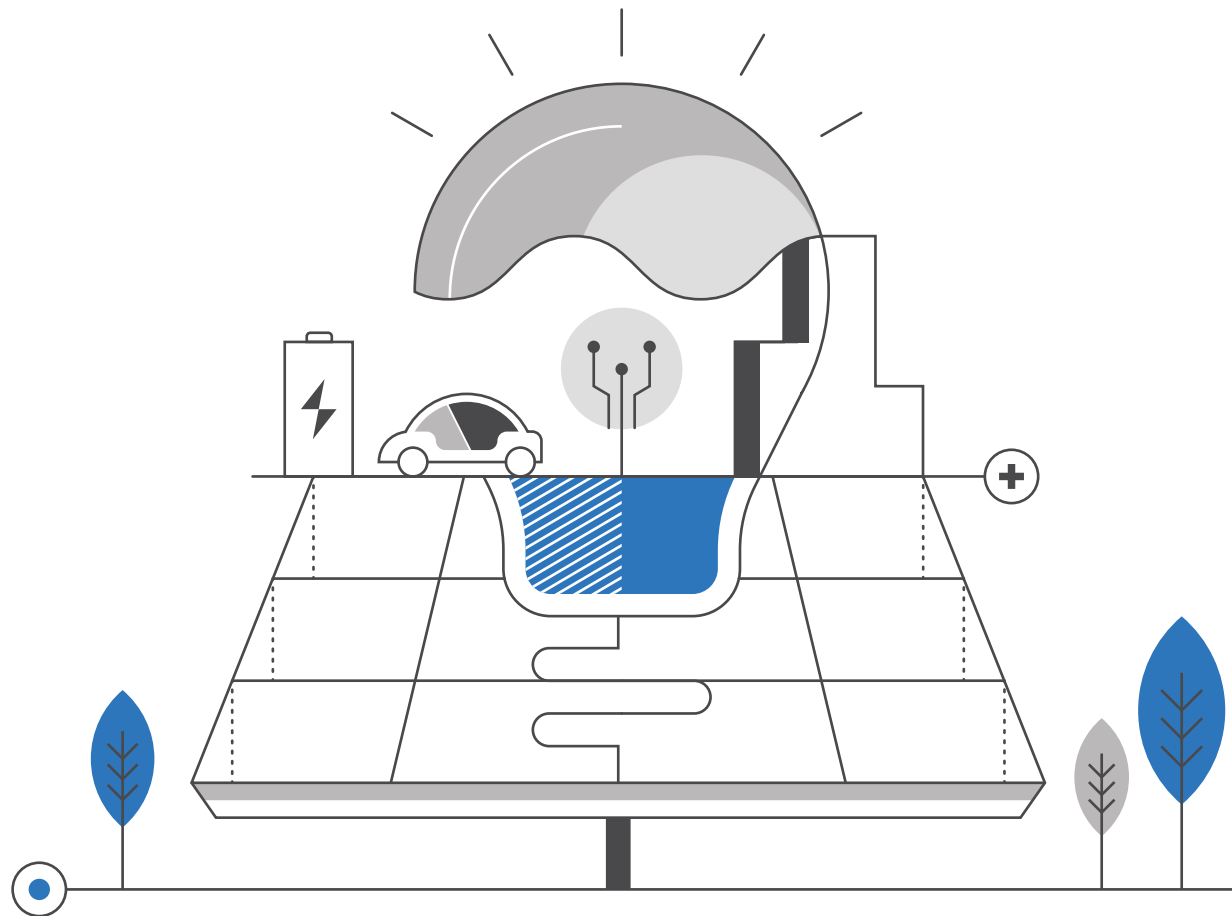
iLamp has been engineered for ease of installation, requiring minimal manpower and equipment. This user-friendly design allows sales agents to offer efficient and cost-effective installation services. Installation guides and cost calculators are readily available from iLamp, ensuring that licensees can accurately estimate installation costs and streamline the installation process.

Sales agents have the flexibility to either control the installation process themselves or sublicense these services. By sublicensing, they can generate additional revenue through the sale of installation rights or by charging royalties on services rendered. This approach enables licensees to maximize their revenue potential and capitalize on every aspect of the sales and installation process.

Maintenance of iLamp systems is another key revenue stream for licensees. Similar to installation, maintenance services can be controlled directly by the licensee or sublicensed. Charging royalties on maintenance contracts provides a continuous revenue source, akin to receiving a commission on each contract. This ensures that licensees benefit not only from the initial sale but also from ongoing service agreements.

The combined revenue from sales, installation, and maintenance of iLamps is substantial. With a wholesale cost of \$5000 and a sale price of \$9000 per unit, a small installation project of 35 units can generate over \$300,000 in sales revenue alone. This significant profit margin underscores the financial viability and attractiveness of iLamp's business model for licensees.

iLamp's direct sales, installation, and maintenance services offer a robust business opportunity for licensees. By leveraging the comprehensive resources and support provided by iLamp, licensees can effectively penetrate the market, secure diverse contracts, and achieve substantial revenue growth.



## iLamp Africa Micro Grids

In Liberia, where traditional energy infrastructure is limited, tailored microgrids offer both immediate and long-term solutions to energy access challenges. These innovative systems, powered by iLamp's technology, have the power to transform communities by providing excess energy for essential needs. Each iLamp can produce 200 watts of surplus energy per hour, which can be securely metered and used to:

**Expand Energy Access:** Electrify remote and underserved areas, delivering power where it's most needed. A single iLamp can provide enough energy to power approximately 4 homes per hour, or 106 homes over a 24-hour period, supporting basic needs like LED lighting and phone charging.

**Support Everyday Needs:** Enable low-power requirements such as home lighting and phone charging, improving safety and quality of life. For example, this surplus energy can power an LED light for 5 hours and charge a phone battery multiple times, ensuring households have reliable access to light and communication.

**Empower Critical Services:** Provide reliable energy to hospitals, schools, and emergency services, strengthening public health and infrastructure.





**RELIABILITY:** Each microgrid is engineered to provide continuous, stable power.



**RESILIENCY:** Built to handle fluctuating demand and withstand local environmental challenges.



**SUSTAINABILITY:** Reduces carbon emissions while supporting long-term energy security.



**COST-EFFICIENCY:** Minimises reliance on expensive fuels, lowers overall energy costs for communities.



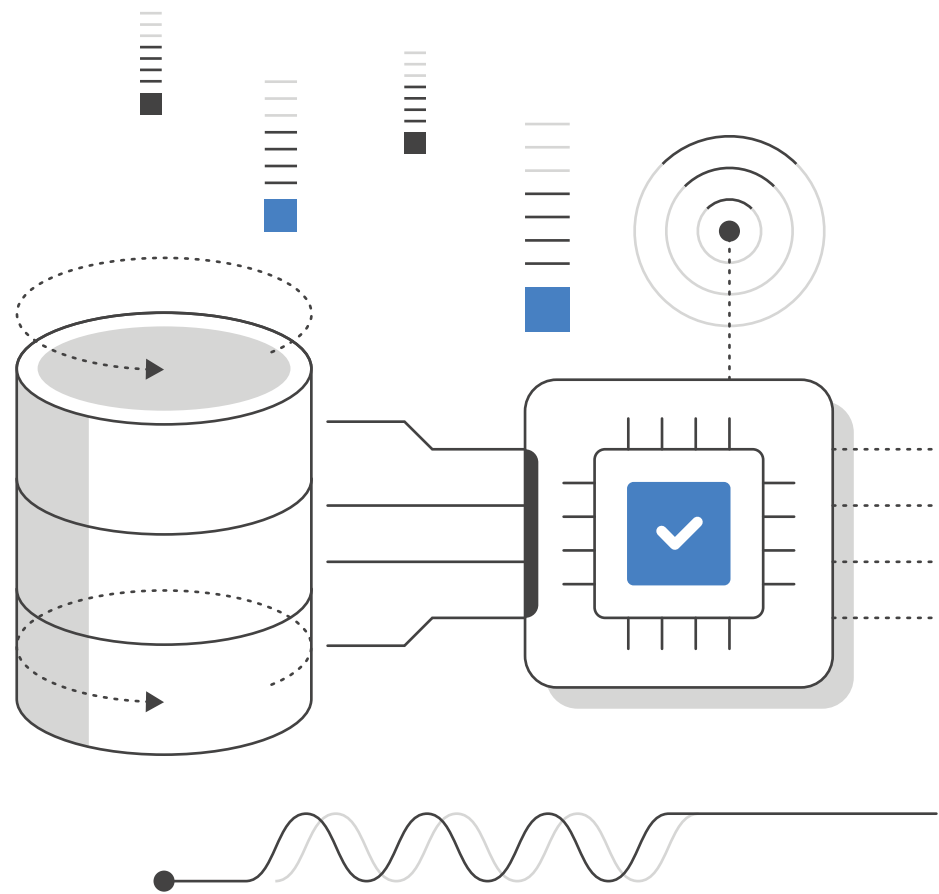
**RAPID DEPLOYMENT:** Modular design allows for rapid deployment and straightforward operation.

**Drive Economic Growth:** Support small businesses and agricultural operations, fostering entrepreneurship and local economic resilience.

By leveraging iLamp's proven expertise in modular, autonomous power systems, Sierra Leone can adopt customized microgrids that provide reliable, resilient energy where it is needed most. These systems reduce dependence on imported fuels, tap into renewable sources, and empower local communities through job creation and manufacturing, offering a scalable, sustainable pathway to progress.

This approach transcends lighting and lays the groundwork for sustainable development, enabling economic growth, supporting critical infrastructure, and driving communities toward a more reliable, inclusive, and prosperous future. iLamp's design exemplifies sustainable innovation, where each lamp not only meets immediate lighting needs but also provides surplus energy to directly benefit households, businesses, and services.

Through solutions like iLamp, Liberia can lead the way in redefining energy access and building a brighter, more resilient tomorrow.



## Distributed Micro Data

### Distributed Micro Data Center Solution

iLamp isn't just a smart streetlight—it's a powerful, self-sufficient on or off grid infrastructure with the potential to host a scalable network of distributed micro data centres (DMDCs). Leveraging its autonomous power generation, tamper-resistant casing, and modular design, iLamp creates a secure, resilient solution for local data processing, storage, and advanced edge computing needs in urban and remote environments alike. This ensures both infrastructure efficiency and adaptability, empowering cities, counties, and even countries with reliable, "always on" connectivity and data processing capabilities.

iLamp's on/off-grid capabilities and adaptable DMDCs position it for diverse applications, including telecommunications, public safety, energy, telemedicine, agriculture, and disaster response. By hosting data at the edge, iLamp minimises latency, supports regional data sovereignty, and ensures rapid access to essential information in emergencies. For rural areas, iLamp streamlines rural connectivity, enables precision agriculture and environmental monitoring, while in urban areas, it powers smart grids, telecommunications, and local resources.

iLamp's unique design as a sustainable, energy-efficient, modular lighting and utility system directly supports DMDCs, placing advanced technology

---

and data storage precisely where it's needed.

### **Resilience and Reliability**

**Networked Redundancy:** With micro data centres distributed across regions, iLamp ensures data redundancy and uptime. If one iLamp unit experiences downtime, others in the network seamlessly maintain data continuity. This "always on" network is crucial for essential services like healthcare, emergency response, and finance.

**Local Disaster Recovery:** By hosting DMDCs in diverse locations, iLamp provides rapid data recovery options, maintaining business continuity during natural disasters, cyberattacks, or power outages. Each unit strengthens resilience.

### **Self Powered and Energy Efficiency**

**Autonomous Energy Generation:** Each iLamp generates renewable energy via integrated solar panels and is optionally installed off grid, or with the grid as a backup, reducing grid reliance and lowering operational costs. This sustainable, low carbon power source is ideal for energy efficient data centre solutions, especially in underserved or remote areas.

**Reduced Operational Independence:** iLamp's self sustaining energy model minimises environmental impact, leading to a carbon neutral infrastructure capable of operating autonomously, independent of the local grid, making it a perfect solution for low infrastructure regions.



---

## **Enhanced Security**

**Secure and Tamper Resistant:** Each iLamp unit is encased in a robust, tamper resistant enclosure, protecting against theft, vandalism, and environmental threats. These secure cases also safeguard sensitive data from physical access, enhancing data protection across the network.

**Reduced Breach Risk:** The distributed nature of iLamp's DMDCs minimises the risk of large scale data breaches, making the network more secure and compliant with global data security standards.

## **Scalability and Flexibility**

**Modular Expansion:** iLamp units can be added or expanded geographically based on local demand, making them ideal for urban growth or scalable applications. As needs grow, additional iLamp DMDCs can be deployed without significant infrastructure changes, enabling localised data processing and reducing latency.

**Edge Computing for IoT and Smart Cities:** iLamp DMDCs process IoT device data locally, enabling rapid response times for applications like traffic management, environmental monitoring, and smart grids. Real time data analytics also support surveillance and autonomous systems, enhancing urban safety and infrastructure management.

## **Optimised Connectivity and Reduced Latency**

**Proximity Data Processing:** By positioning DMDCs near end users, iLamp reduces data transfer times, optimising connectivity for low latency applications like streaming, gaming, and real time analytics. This is particularly valuable in remote areas or high density urban centres, where reliable access is essential.

**Local Content Caching:** iLamp DMDCs act as local content nodes, hosting popular content and reducing bandwidth usage for faster, more efficient access. This proximity provides high quality, low latency service for multimedia, gaming, and cloud based applications.

## **Data Sovereignty**

**Regional Data Storage:** iLamp's localised data hosting supports compliance with data sovereignty regulations, like GDPR in Europe or HIPAA in the U.S. Each unit can store data within specific jurisdictions, allowing companies to operate in heavily regulated markets while ensuring data privacy and security.

**Healthcare Data Processing:** By hosting data centres at the edge, iLamp

---

facilitates fast, secure processing of sensitive health data, supporting telemedicine, diagnostics, and emergency response, all while adhering to local data security and privacy laws.

### **Reduced Capital Investment and Operational Costs**

**Cost Effective Micro Data Centers:** Rather than investing in a single, large data centre, iLamp offers a modular alternative that spreads capital investment over smaller, scalable units. This decentralised approach lowers initial and maintenance costs while providing operators with the flexibility to manage each data centre independently or as a unified network.

**Lowered Transmission Costs:** Since iLamp DMDCs are self powered and networked close to end users, they cut down on long distance data transmission expenses, enabling localised, cost efficient infrastructure for smart city initiatives.

### **Eco Friendly and Low Impact**

**Minimal Ecological Footprint:** Each self powered iLamp unit reduces the environmental impact of data centre operations, seamlessly integrating into both urban and rural landscapes without disrupting local ecosystems. This approach aligns with sustainable development goals and fosters resilient, eco friendly cities.

**Support for National Defense and Emergency Operations:** Deployable and self sufficient, iLamp DMDCs can provide essential communication, intelligence gathering, and data storage for military and disaster relief operations. This capability ensures secure, localised data access in emergency situations or mobile deployments.

### **Community and Economic Development**

**Job Creation and Local Manufacturing:** iLamp deployment supports local economies by creating jobs in manufacturing, tech support, and maintenance. Each installation not only improves infrastructure but also fosters economic growth and community ownership, directly benefiting local economies.

**Retail and E Commerce Support:** For retailers, iLamp DMDCs enable real time data analytics for inventory management, customer behaviour insights, and location specific marketing strategies, enhancing the in store experience and reducing dependency on distant servers.

### **Scalable Power and Regional Microgrid Capabilities**

**On Demand Microgrid Scaling:** iLamp's distributed units create a sustainable

---

microgrid, allowing regions to scale up from individual units to a robust, interconnected grid supporting larger residential, commercial, and industrial zones. This scalability provides long term adaptability to changing energy and data demands.

**Reduced Dependence on Fossil Fuels:** By integrating renewable sources and balancing energy generation with storage, iLamp microgrids lower reliance on fossil fuels, cutting costs and enhancing energy security for communities and businesses.

### **Applications of iLamp DMDCs in Smart Cities**

**Telecommunications and 5G Support:** Located near telecom towers, iLamp DMDCs handle increased data demands from 5G networks, delivering faster speeds for mobile data and remote applications like VR and gaming with minimal latency.

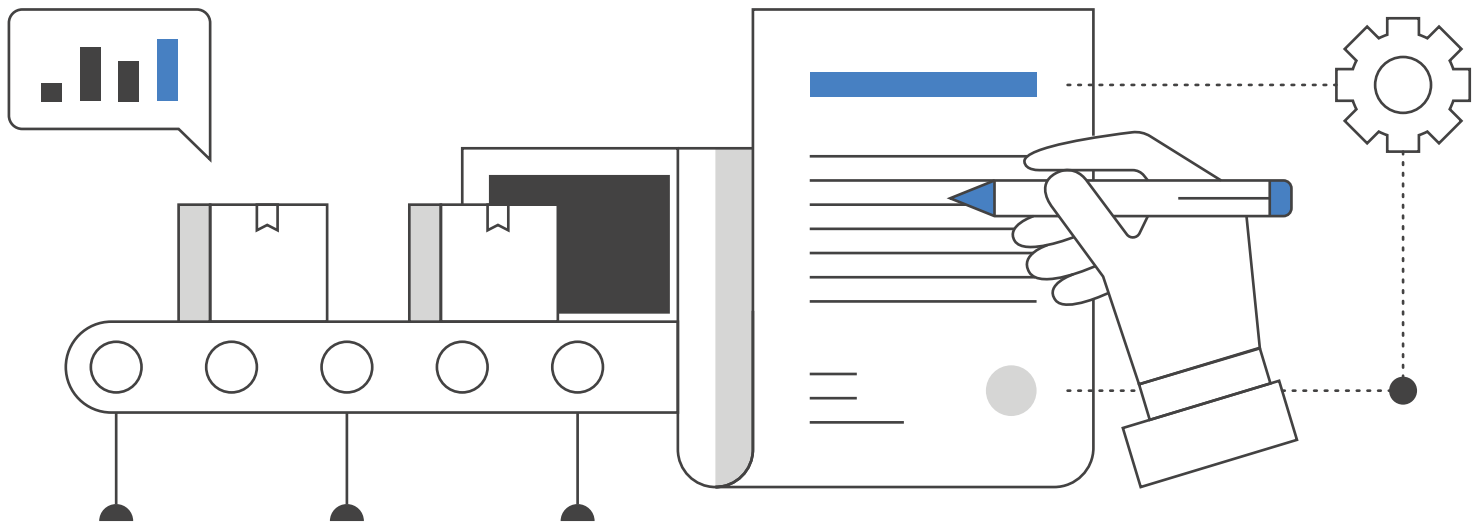
**Public Safety and Surveillance:** iLamp DMDCs provide real time monitoring for public safety systems, enabling rapid response and improved emergency coordination for city infrastructure and public areas.

**Education and Research:** Campuses benefit from iLamp's localised data centres, supporting high demand research and academic applications while offering network resources for educational needs.

**Energy and Utilities:** iLamp supports smart grid management by balancing loads, integrating renewable energy, and enabling predictive maintenance for utility providers.

**Agriculture and Environmental Monitoring:** In rural areas, iLamp DMDCs enable precision agriculture applications like soil and water monitoring and wildlife tracking, supporting eco conscious and data driven farming practices.

The iLamp DMDCs represent an energy efficient, resilient infrastructure solution that brings data processing and connectivity closer to communities, transforming local landscapes with reliable, eco friendly technology.



## Local iLamp Micro Factories

### The Local Benefits of iLamp

The iLamp solution brings a host of local benefits that extend beyond simple street lighting, creating a transformative impact on communities.

By licensing comprehensive rights including manufacturing, assembly, sale, and installation, iLamp provides the blueprint for each territory to develop microfactories, creating local jobs and fostering economic growth at a local level.

These microfactories, designed to produce high-mix, low-volume lamps, allow for the customisation of streetlights that fit the specific environmental and cultural needs of each community. This flexibility ensures that iLamps are not just functional but also align with the unique character of the city or region.

For municipalities, iLamp offers an opportunity to engage the local population through design competitions and public consultations on the sensors to be installed and services to be provided, allowing cities to involve residents in shaping the aesthetic and function of their public lighting. This fosters a deeper sense of ownership and pride, as the streetlights become an integral part of the city's identity.

As streetlights evolve into critical nodes in smart city infrastructures, iLamp ensures that these nodes remain locally owned, capturing economic value within the community, creating a virtuous cycle of investment and growth.

iLamp's locally trained teams handle sales, manufacturing, assembly, installation and maintenance. The presence of free iLamps in key areas such as



---

schools, churches, and community centres also enhances safety and connectivity, contributing to community well being.

Beyond street lighting, iLamp's App Store and Module Store inspire local innovation, providing a platform where communities can develop and implement solutions tailored to their environment. These innovations can then spread to other regions with similar challenges, creating new revenue streams and further boosting local economies. This global-local exchange ensures that money not only stays within the community but attracts external investment as well.

With the potential to reduce crime, improve safety, and create economic opportunities, iLamp fosters a positive feedback loop of community benefits. Its partnerships with diverse local stakeholders—such as property developers, public works contractors, councils, community leaders, and various local consultants—ensure that each iLamp is a perfect fit for the community it serves, enhancing the vibrancy and sustainability of cities around the globe.

The iLamp Microfactory system empowers territories to efficiently prioritise production by leveraging locally available materials and expertise. This approach enables regions to make the best use of local resources while maintaining flexibility in production.

By integrating procurement with local assembly, the system strikes an optimal balance between sourcing materials and producing components locally, ensuring streamlined, energy efficient, and time sensitive manufacturing.

This model is particularly suited for high-mix, low-volume production, allowing iLamps and other innovations from the Conflow Power Group to be tailored to specific regional needs. The result is a sustainable, responsive manufacturing process that supports local economies and reduces logistical challenges.

---

## iLamp Liberia and the paradigm shift

iLamp offers a vision that extends far beyond illumination to fundamentally reshape the country's approach to sustainable energy and community development. The critical opportunity lies in giving Liberia the means to transform itself by manufacturing components and exporting them, by creating solutions tailored to its needs, and by spreading opportunity, light, electricity, and communication across the entire country.

By leveraging Liberia's untapped potential in local talent and resources, iLamp can create a thriving ecosystem of solutions tailored to the nation's unique needs. Each iLamp functions as a microgrid, delivering light and electricity to even the most remote locations, while serving as a platform for advanced local services. From environmental monitoring to community communication tools, iLamp transforms streetlights into hubs of value, unlocking possibilities for both local innovation and global export.

Establishing production and assembly facilities in Liberia positions iLamp as a cornerstone of economic growth. These micro-factories not only generate high-quality jobs but also allow for customization of iLamp solutions to reflect the distinct needs of Liberian neighborhoods. By enabling Liberia to produce and export these cutting-edge technologies, iLamp fosters a self-sustaining cycle of innovation and revenue generation, driving economic resilience and international competitiveness.

Beyond lighting, iLamp unlocks the untapped potential of streetlight infrastructure. With subscription services like Power as a Service (PaaS) and monetized real estate on lamp poles for hardware and software integrations, iLamp Liberia creates diverse and sustainable revenue streams. This model ensures long term financial viability while delivering immense value to communities and stakeholders.

The iLamp App Store provides a marketplace for locally developed applications, enabling Liberian developers to harness iLamp's onboard sensors and communication tools. These innovations can be scaled globally through iLamp's extensive distribution network, allowing Liberia to showcase its technological prowess on the world stage. The ability to export locally manufactured iLamps further enhances Liberia's reputation as a leader in renewable energy solutions.

As Liberia rebuilds its infrastructure and strives for energy independence, iLamp's innovative streetlighting and microgrid solutions are not just beneficial but essential. By combining local manufacturing, export potential, and modular innovation, iLamp Liberia offers a blueprint for a brighter future.