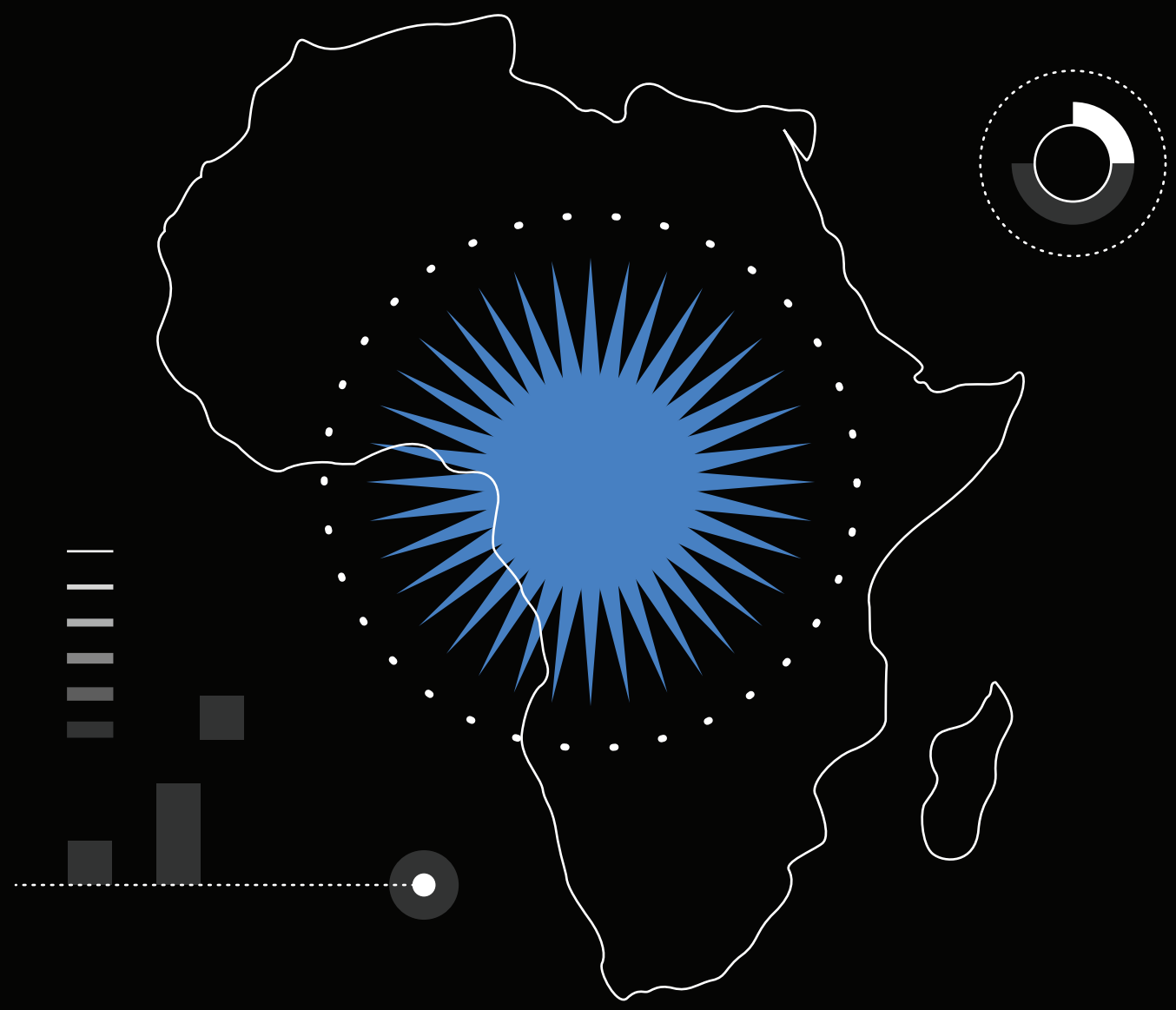
iLamp

iLampAfrica.com



# iLamp Roadmap for The Continent of Africa

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

# iLamp

Africa Population
**1.216 Billion**

GDP
**$3.1 Trillion**

Minimum streetlights Required
**124 Million**

Street lighting is the single largest source of carbon emissions from local government, accounting for 30-60% of their total emissions.

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.

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**A proven model**: The iLamp model has already established its viability and effectiveness through successful territories globally. These territories have served as dynamic testbeds, showcasing the tangible benefits and operational excellence of the iLamp solution. As a prospective licensee, you have the unprecedented advantage of building upon this established foundation, taking the helm of iLamp Africa to steer the expansion and consolidation of this groundbreaking venture across the continent.

iLamp extends far beyond a streetlighting solution; it equips iLamp Africa with a suite of strategies designed to unlock significant economic and social benefits, generate revenue, raise money, enhance public safety, and establish a strong technological platform that attracts ad inspires African tech innovators and developers.

**Comprehensive Rights:** The rights granted are immensely beneficial for iLamp Africa, providing a robust framework to optimize their operations, manage capital requirements, and generate ongoing revenue. iLamp Africa can effectively and immediately generate revenue through sublicense sales, which also charge royalties on the revenue generating activites of sublicensee's. Rights are flexible, for example sales rights, may be sublicensed down to a very local level, reaching local experts who have better local connections and can exploit them more effectively, while with manufacturing or distribution rights it may be more beneficial when exploited at a national or regional level.

**Utilities**: The Power as a Service (PaaS) model, where customers pay for the clean energy generated and used by the device, sets a precedent for establishing a new kind of utility company and a new model to help existing utilities to adopt sustainable practices starting with iLamp. This leads the way for new utilities focusing on local clean energy production, detailed billing, and dynamic on-device management.

**Local Rights**: iLamp's commitment to granting local operator rights drives local job creation in different sectors, from manufacturing, distribution, sales, production, installation and maintenance. By leveraging regional talents and materials, it supports economic growth and regional prosperity.

> *Creativity is the power to correct the seemingly unconnected.* - William Plomer

# iLamp

Estimated Streetlights
**1,047,370**

Streetlight Shortfall
**2,002,630**

Michigan Area
**96,713 Sq Mi**

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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 supporting safe movement, commerce and communal meeting places after dark, fostering a greater sense of security, creating healthier and more vibrant communities.

As Africa continues to position itself as a leader in sustainable development and technological innovation, iLamp Africa is committed to integrating advanced hardware and software solutions across the continent through locally owned and operated micro-factories. By focusing on local manufacturing, iLamp ensures that the money generated from its operations stays within African communities, fostering local economic growth, job creation, and long-term prosperity.

iLamp Africa is more than just a street lighting solution; it represents a pathway to economic empowerment, innovation, and community-led progress. By addressing critical challenges like energy access, public safety, and infrastructure development, iLamp helps build safer, more sustainable communities across urban and rural areas alike.

The commitment to local manufacturing and assembly within Africa means that each iLamp micro-factory creates jobs in sectors ranging from engineering to installation, keeping the economic benefits within the community. Additionally, as African-owned enterprises take the lead in producing and distributing iLamp systems, they build a sustainable future where profits and opportunities remain in local hands. This aligns with Africa's broader vision of self-reliance and growth driven by homegrown businesses.

iLamp's state-of-the-art, modular street lighting systems enhance public safety by reducing crime, improving visibility, and promoting local development. In well-lit areas, property values rise, and communities benefit from enhanced economic activity. The modular design of iLamp not only provides lighting but also offers environmental monitoring, hazard warnings, and diverse revenue streams through services like Power as a Service (PaaS) and sublicensing.

As part of the Conflow Power family, iLamp Africa licensees gain access to cutting-edge innovation, technology, and continuous growth opportunities. This allows for future-proof infrastructure upgrades that can be seamlessly integrated into new developments, public spaces, and business districts across the continent.

# 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.

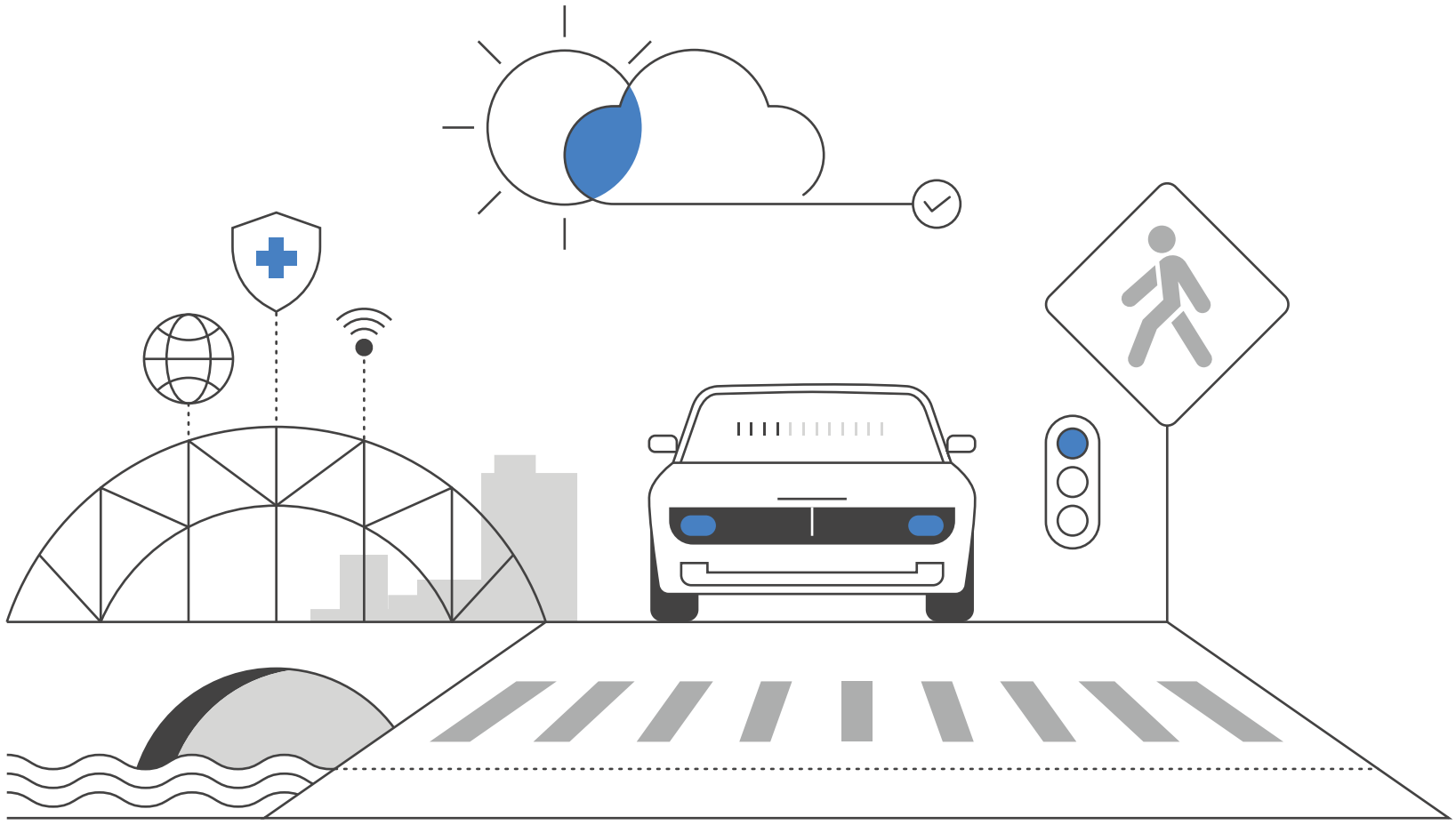
Each iLamp is customizable to meet the needs of different neighborhoods-supporting add-ons like 5G WiFi, traffic management, CCTV, environmental sensors and a plethora of other modules, sensors and software. This modularity ensures a quick, plug-and-play setup, making it adaptable and future proof and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

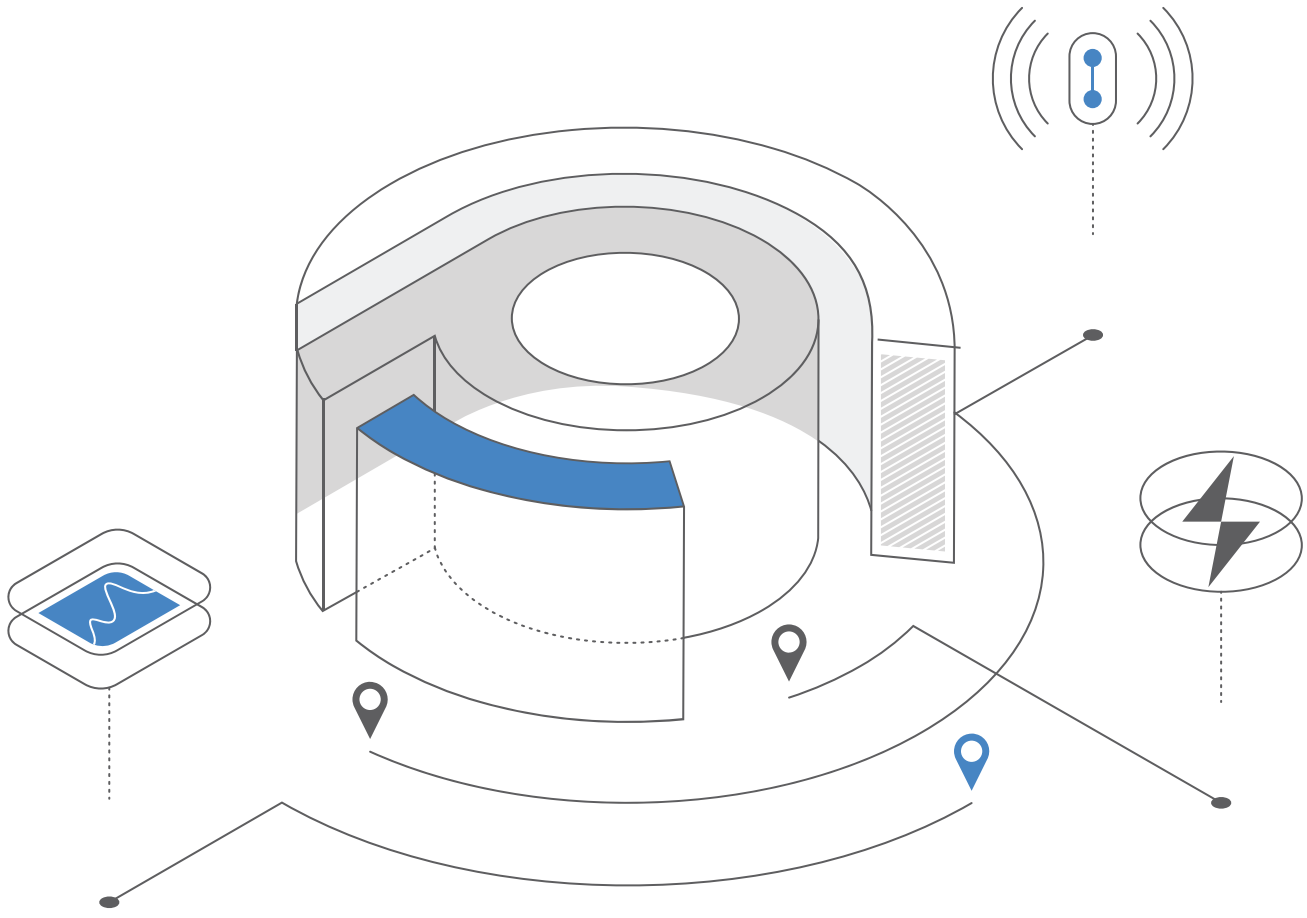
iLamp has a transformational effect on communities making them safer, more prosperous, social and desirable. It is the single most cost effective improvement any country, city, town or neighbourhood can make, offering multifaceted benefits that dramatically outweigh its costs.

**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.



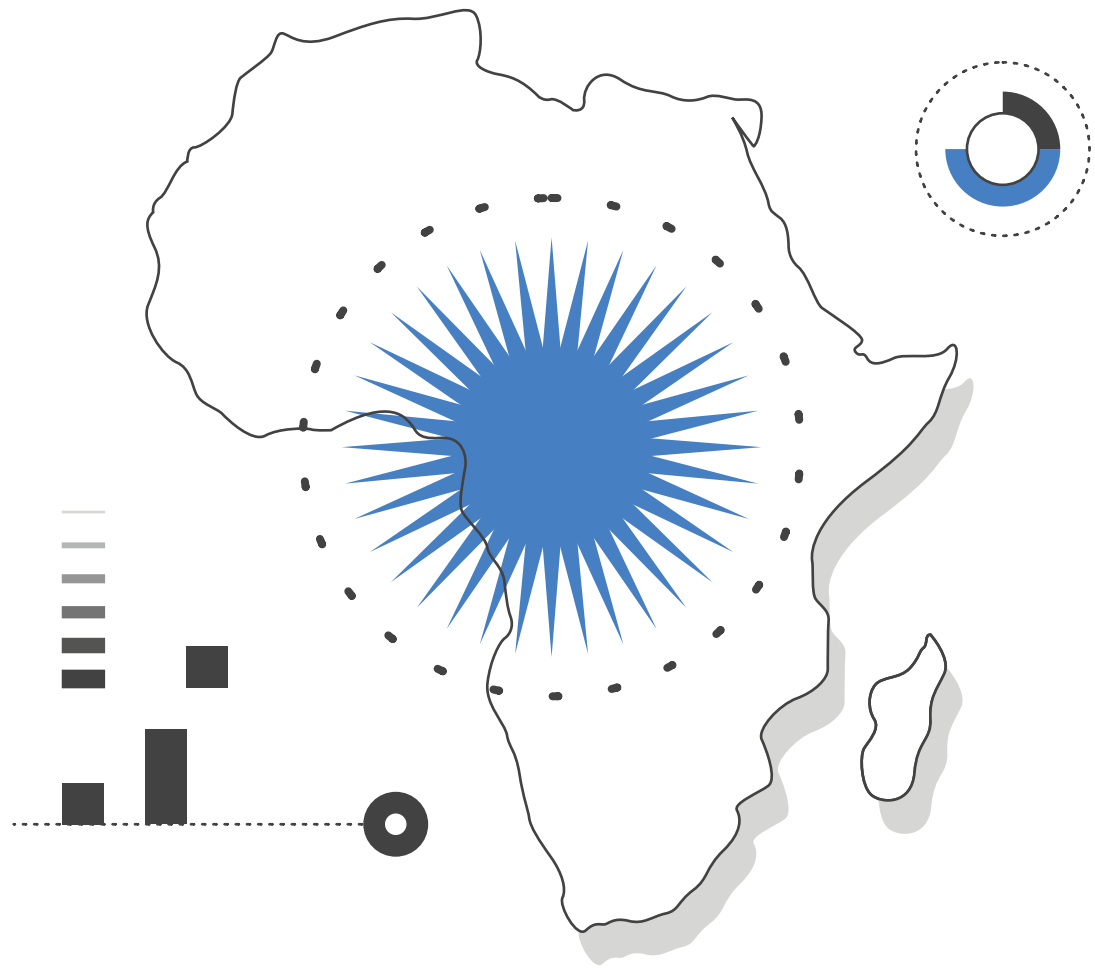
# The Power of Conflow

## 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 African Opportunity

The iLamp solution represents a groundbreaking approach to addressing energy challenges across Africa, providing a cost effective, resilient, and sustainable answer to the continent's diverse energy needs. With its proven ability to reduce crime, save lives, and operate independently of traditional power grids, iLamp is more than just a streetlight—it's a self-sufficient micro-grid, a power source, and a community asset.

Cost Efficiency and Energy Access:

Across Africa, energy access remains a significant challenge, particularly in rural areas where grid infrastructure is limited or non-existent. iLamp's self-powered design offers a solution by eliminating the need for costly grid expansion, reducing reliance on imported fuels, and providing affordable, clean energy exactly where it's needed. This significantly lowers energy costs for local governments, businesses, and communities, providing a practical alternative to conventional energy sources that are often expensive and unreliable.

Economic Growth and Job Creation:

iLamp is not just a lighting solution but a platform for economic empower-ment. By developing local Micro Factories to produce iLamp streetlights and microgrid components, African communities can create jobs, foster local

manufacturing, and stimulate economic growth. The modular nature of iLamp means that each streetlight can be customized for the specific needs of the region, ensuring flexibility in both urban and rural deployments. This local manufacturing approach reduces costs and builds a skilled workforce that can manage and expand these energy solutions over time.

### Scalable Microgrid Solutions

Each iLamp is a miniature microgrid, generating renewable solar power and storing energy efficiently. This allows for scalable energy solutions that can be deployed rapidly in underserved areas. These microgrids can be expanded to support residential, commercial, and public infrastructure, providing a pathway to reliable electricity for homes, schools, hospitals, and businesses. By integrating solar energy with iLamp's autonomous systems, Africa's abundant solar resources can be harnessed to provide clean, renewable energy across the continent.

### Supporting Critical Infrastructure

Reliable power is essential for critical infrastructure, including healthcare, education, and emergency services. iLamp microgrids offer a dependable energy source that can power hospitals, schools, and emergency facilities, ensuring that these services continue to operate even during power outages or grid failures. This reliability can improve public health, safety, and quality of life in communities across Africa, where grid power can often be unpredictable.

### Sustainability and Environmental Impact

Africa has immense renewable energy potential, particularly in solar power, but these resources remain largely untapped. iLamp's renewable solar energy systems provide an environmentally friendly solution that reduces carbon emissions, supports sustainable development goals, and helps communities transition away from costly, polluting fuels like diesel and kerosene. This shift to renewable energy can reduce long-term energy costs while contributing to global climate goals.

### Communal Lighting Hubs

In many rural areas of Africa, reliable lighting can be scarce. iLamp can serve as a communal lighting source, providing well-lit spaces for evening activities such as markets, public gatherings, or community meetings. These communal lighting hubs enhance safety and social cohesion after dark, creating spaces where communities can thrive.

### Telecom Support and Connectivity

In areas where telecom infrastructure is underdeveloped, iLamp can serve as a hub for 5G WiFi or local telecom networks, improving internet access for schools, healthcare centers, and communities. By providing connectivity in previously underserved areas, iLamp helps bridge the digital divide, supporting education, communication, and business growth.

### Security and Surveillance

With built-in CCTV cameras and environmental sensors, iLamp can help monitor community areas for crime prevention, wildlife tracking, or agricultural security. This technology addresses some of the specific safety and conservation concerns in both rural and urban African environments, enhancing public safety and protecting valuable resources.

### Agricultural Sensors and Data Collection

iLamp can integrate sensors to monitor local environmental conditions such as humidity, temperature, and soil quality, helping farmers optimize crop production and mitigate the effects of climate change. This data-driven approach to agriculture can significantly improve yields and contribute to food security across Africa.

### Emergency Communication

Equipped with public address systems or emergency communication modules, iLamp can be a critical tool for disseminating information during natural disasters, health crises, or other emergencies. This capability supports better community resilience and ensures that crucial information reaches people when it matters most.

### Crime Prevention and Public Safety

By providing consistent, high-quality lighting in public spaces, iLamp helps reduce crime rates, enhance road safety, and improve overall community well-being. Studies have shown that well-lit areas see significant reductions in crime, which in turn lowers the financial burden on local law enforcement, healthcare, and property management. The social and economic benefits of crime reduction, combined with iLamp's ability to function during grid outages, create a safer, more secure environment for communities across Africa.

### Resilient and Reliable Energy Solutions

Africa's diverse environments from deserts to tropical regions—require energy solutions that are adaptable and resilient. iLamp's innovative cylindrical solar panels are designed to withstand harsh conditions such as sand, snow, dirt, and floods, ensuring continuous energy production. Its self-cleaning panels and low maintenance requirements make it ideal for remote and rural regions where regular maintenance may not be feasible. This ensures that communities can rely on iLamp for consistent energy access, regardless of environmental challenges.

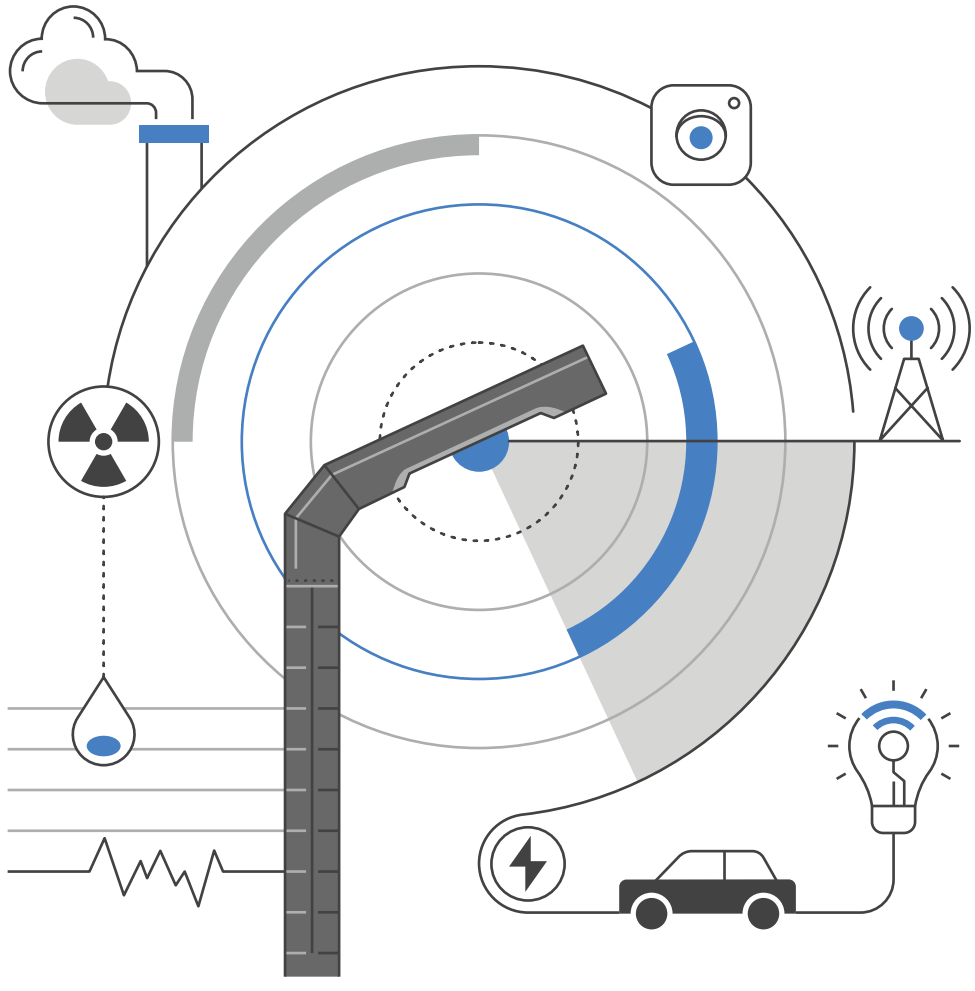
### Empowering Communities and Fostering Sustainability

By allowing developers to create and monetize plug-and-play modules, iLamp fosters local innovation and entrepreneurship. Modules that provide environmental monitoring, public safety, communication, and more can be easily integrated into the iLamp system, creating new revenue streams and supporting the local economy. The flexibility of the iLamp system encourages community ownership, empowering local stakeholders to shape the energy landscape in ways that best meet their needs.

### Africa-Wide Impact

The energy challenges faced by African nations are diverse, but the iLamp solution is adaptable enough to meet these varying needs, from dense urban centers to remote rural communities. With an emphasis on local manufacturing, job creation, and scalable energy access, iLamp is uniquely positioned to help Africa achieve its goals of expanding electricity access, reducing carbon emissions, and fostering sustainable economic growth.

iLamp's blend of microgrid technology, modular design, and renewable energy creates a transformative solution for Africa's energy challenges. By delivering reliable, cost effective, and sustainable energy, iLamp not only illuminates streets but also lights the way towards a more prosperous and resilient future for communities across the continent.



# Public security and health

## Road Safety & Traffic

iLamp enhances road safety by reducing accidents and fatalities for both drivers and pedestrians. Its superior lighting ensures optimal visibility. Equippable with modular cameras and communication systems, iLamp can monitor traffic, detect hazards, and relay real time information to improve response times during accidents.

## Pedestrian Safety & Crime Deterrence

By illuminating streets, crossings and public spaces, iLamp deters crime and increases pedestrian visibility, making urban environments safer. Integrated with modular camera systems, it monitors pedestrian areas in real time to detect potential hazards and security threats.

## Public Safety & Hazard Detection

iLamp is equipped with advanced sensors that detect smoke, gas leaks, gunshots, and seismic activity. These public safety hazards are identified in real-time and communicated to the relevant authorities, allowing for rapid, targeted responses. In emergency situations such as wildfires, explosions, or

shootings, iLamp's detection capabilities provide critical early warnings, improving public protection and disaster response.

### Environmental & Weather Monitoring

iLamp's robust weather sensors monitor extreme weather conditions, including storms, heatwaves, and floods, adapting light intensity and distribution to ensure visibility and public safety. The system can withstand harsh environments like high heat, storms, sand, and dust, while shedding snow to maintain functionality in winter conditions. These features ensure reliable operation in diverse climates, making iLamp a resilient solution for any environment.

### Air Quality

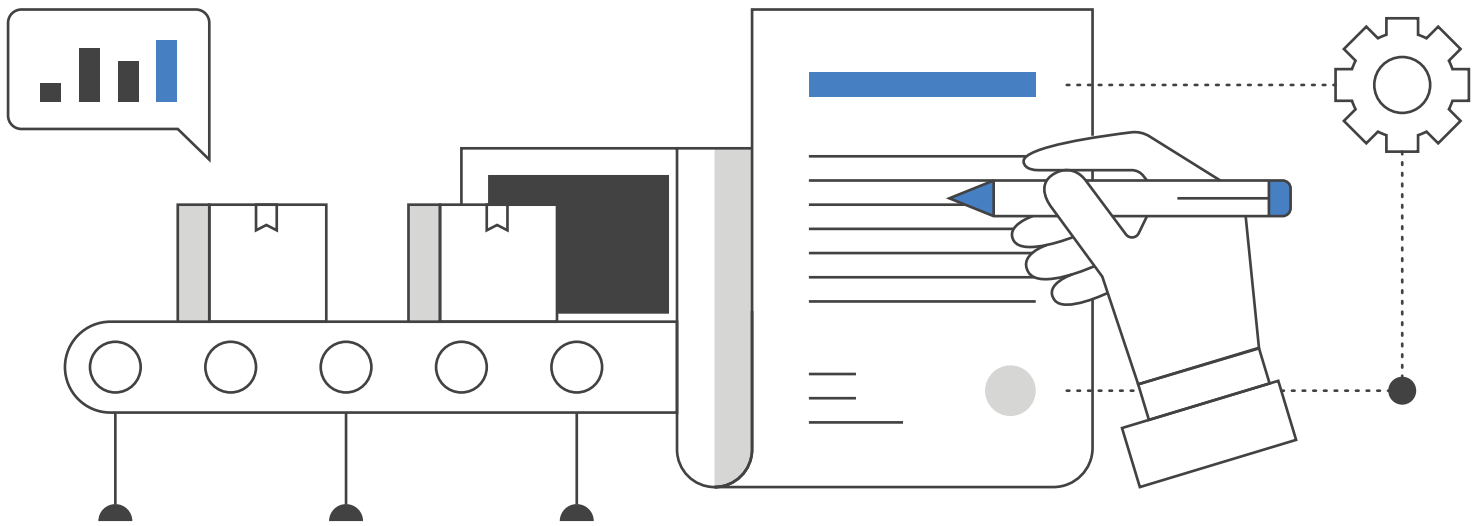
iLamp contributes to public health by integrating pollen and particulate matter (PM) sensors that track allergens and pollutants in real time. These sensors allow iLamp to provide air quality alerts to the public, helping individuals, especially those with respiratory conditions, avoid harmful exposure. By monitoring local air quality, iLamp supports broader efforts to maintain healthier urban living conditions.

### Communications

iLamp's communication modules enable seamless transmission of critical information to emergency services and authorities. This interconnected network of sensors improves decision-making during emergencies, allowing for faster, data-driven responses. Whether it's a road incident, crime detection, or environmental hazard, iLamp ensures that key information reaches the right authorities in real-time.

### Integration with Existing Infrastructure

iLamp's modular design allows for seamless integration with existing infrastructure, enhancing data collection and city management. It can be paired with systems that monitor traffic, noise, air quality, and even utilities like grid management, enabling smarter, more connected cities. This integration helps authorities manage urban environments more effectively, promoting a safer and healthier community.



# 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 rights 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.

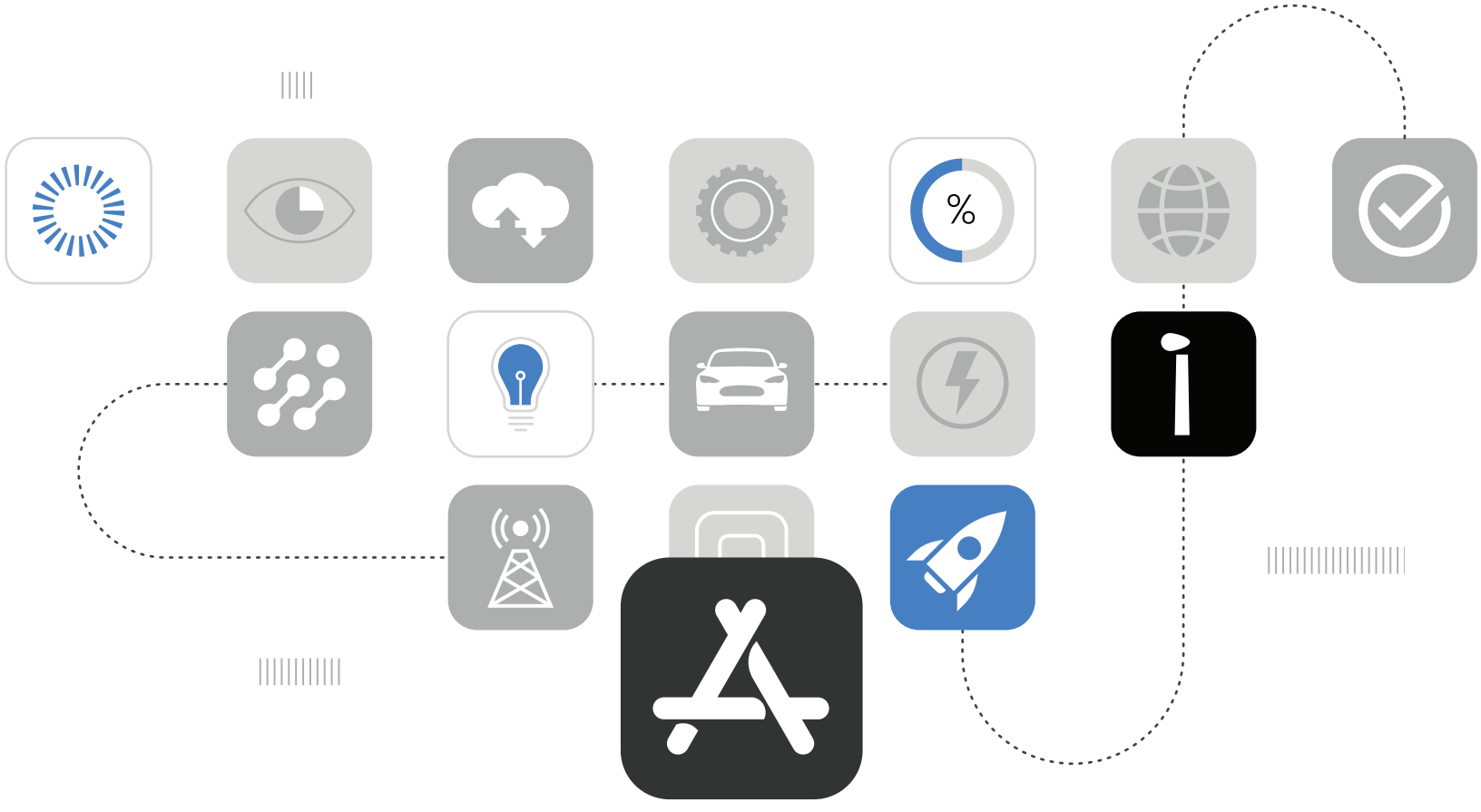
### 10. Access to a Repository of Solutions:

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 App Store for Urban Innovation

iLamp stands at the forefront of urban technological evolution, 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

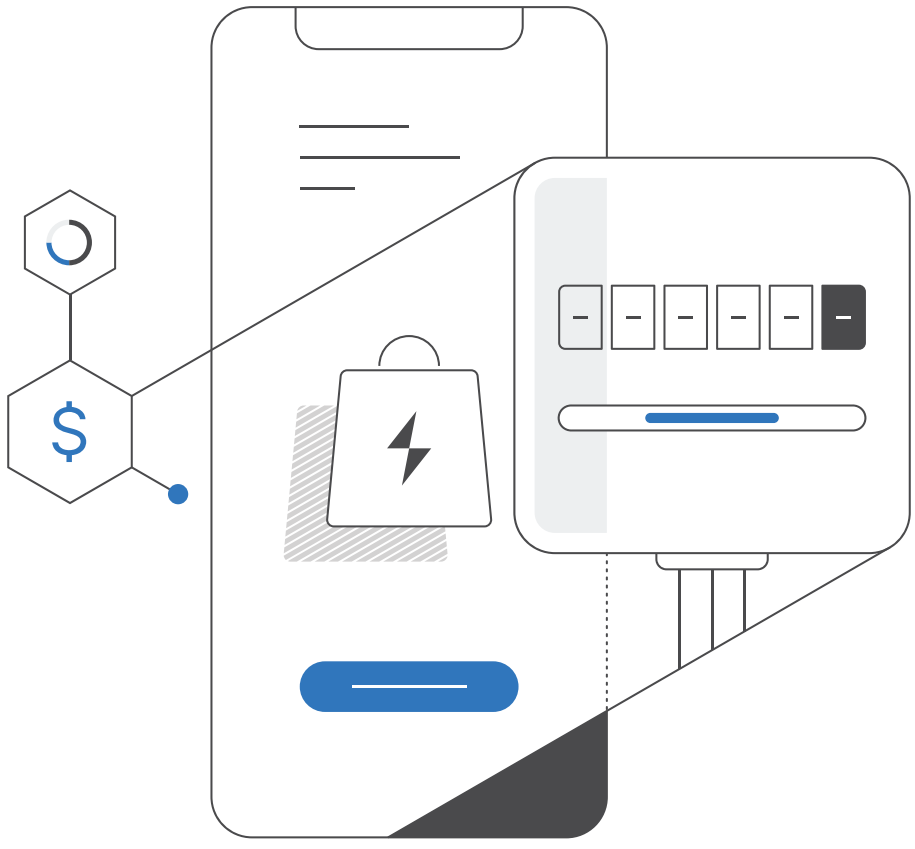
BatteryWare conducts comprehensive monitoring, and real-time analysis to ensure optimal battery conditions.

### 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.

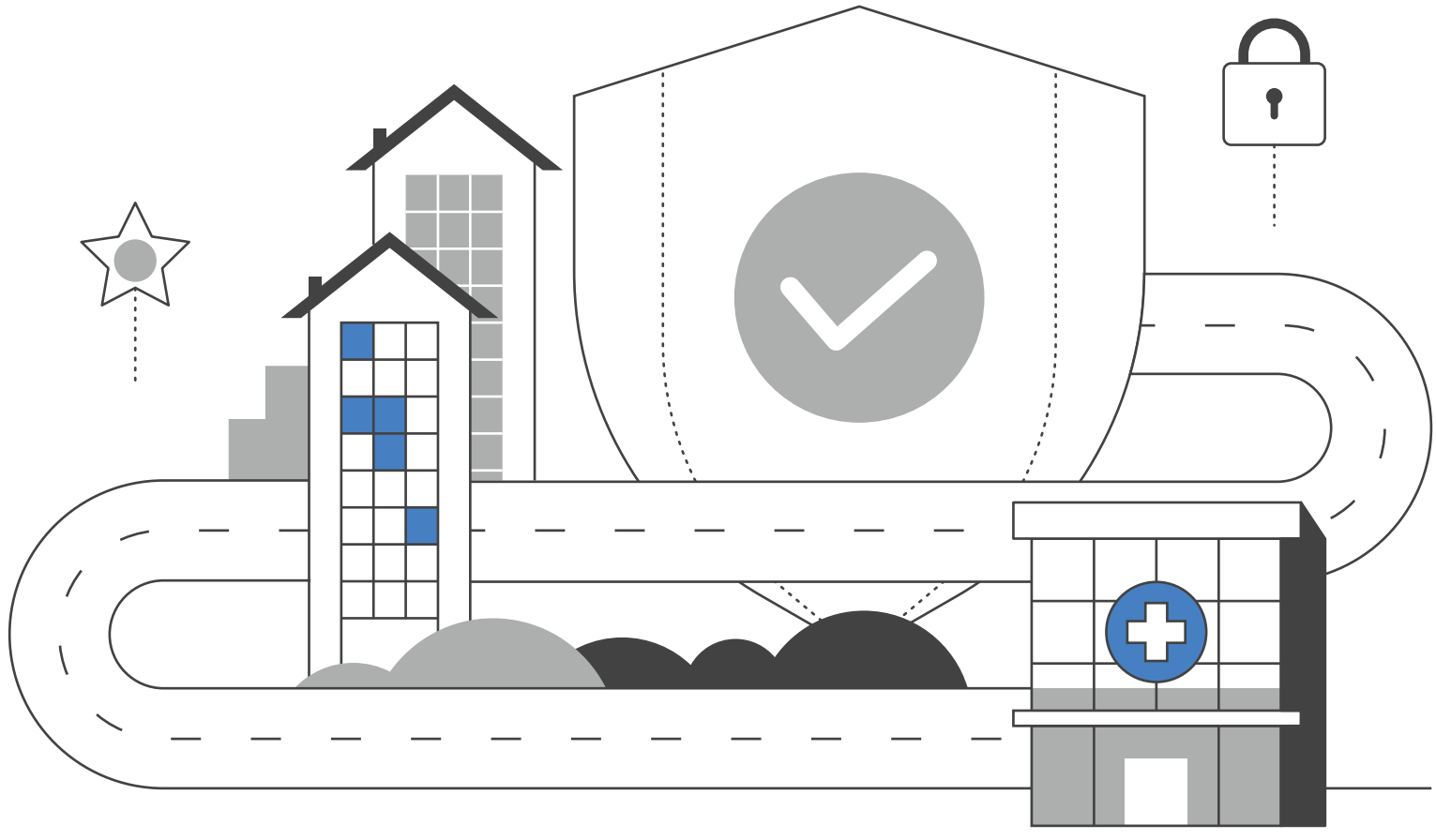


# Power as a Service

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:

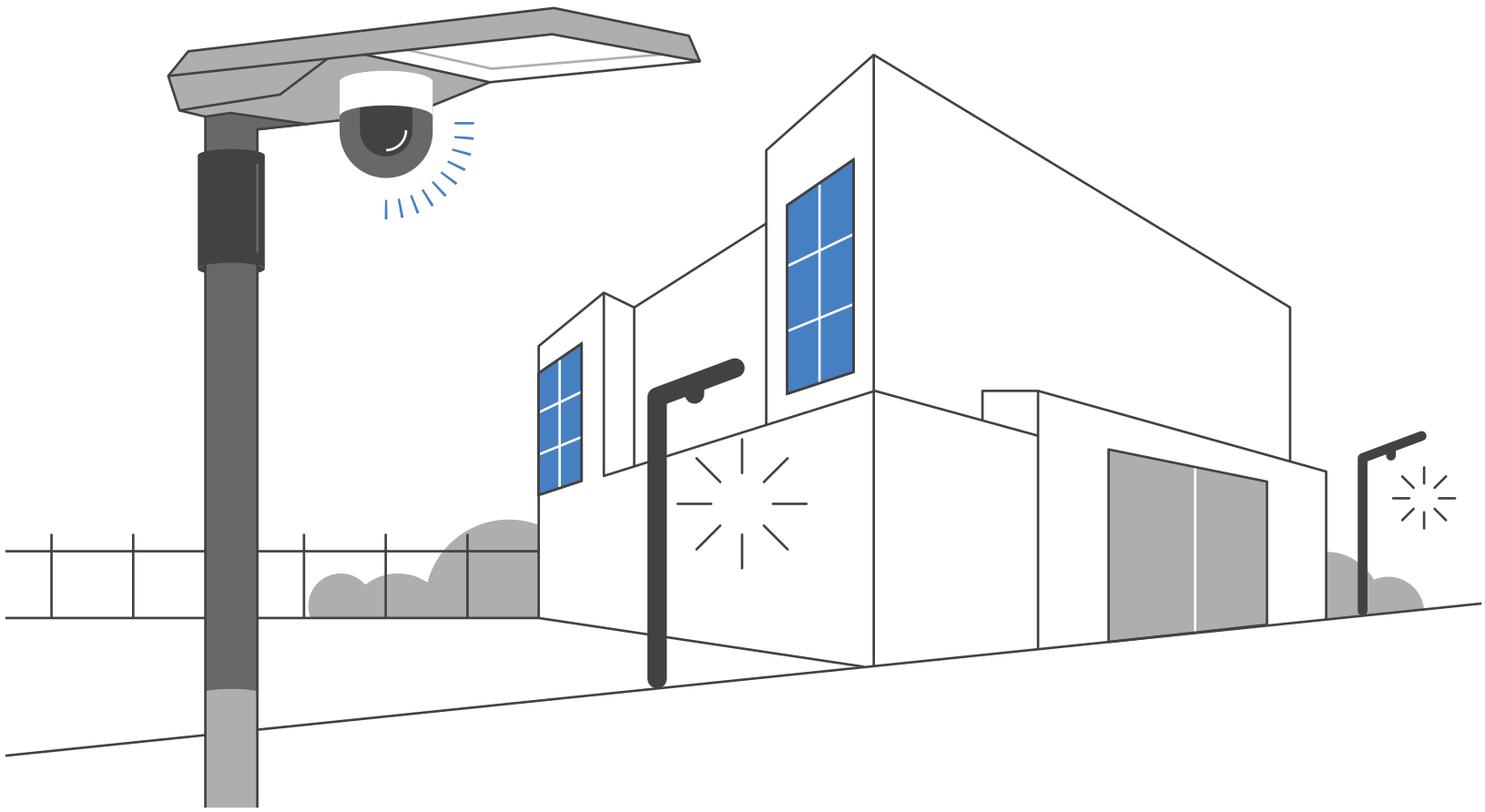
**UK Home Office:** 20% reduction in crime, including vehicle-related crimes.

**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.

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

Better lit streets improve the perception of safety, leading to increased outdoor activities and community engagement and enhance the effectiveness of other crime prevention measures, such as CCTV surveillance.

Enhanced street lighting presents a promising strategy to improve public safety, reduce crime, and boost property values. Given the continents rapid growth and active real estate market, investing in such infrastructure yields substantial benefits, making neighborhoods safer and more attractive to residents and businesses.



# The iLamp Effect

Imagine a community with limited energy access and few safe, well-lit spaces after dark. Local businesses close early and people are hesitant to gather and travel outdoors. The lack of reliable lighting hinders social interaction, stifles economic activity, and contributes to increased road accidents and crime, leaving a costly impact on the entire community.

Poorly lit streets are a major contributor to road accidents, especially at night. These accidents don't just harm individuals—they come with community wide costs. When someone is injured in a crash, it places an immediate strain on local systems, consumes resources, and burdens families with medical expenses and lost income. Road accidents can also damage critical infrastructure, diverting funds that could be used by the community.

Crime, too, carries immense social and economic costs. In areas where lighting is inadequate, crime increases. Beyond the direct impact on victims, crime drains public resources. It also creates a sense of fear, making people less likely to engage in evening activities or support local businesses after dark, limiting the potential for economic growth. The overall impact is a downward spiral of lost opportunities and wasted potential, holding communities back.

Now, picture iLamp being installed—solar-powered, locally manufactured, and maintained to ensure that the economic benefits stay within the community. With reliable, self sustaining lighting, the transformational effect on the community is immediate.

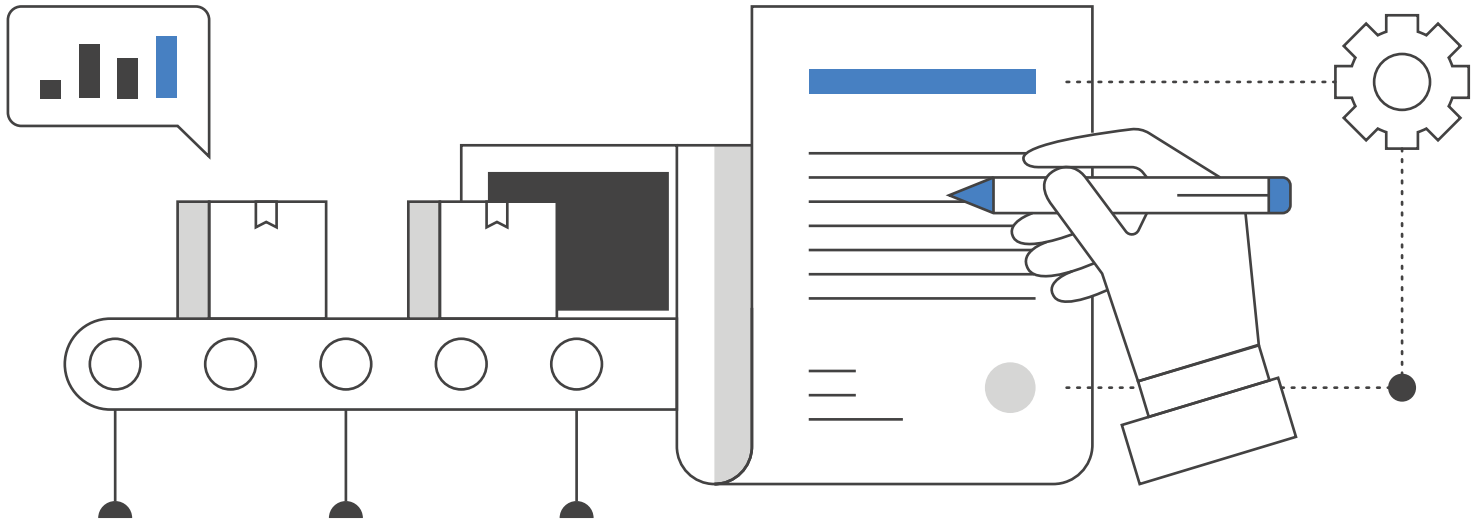
The enhanced lighting improves visibility on roads, drastically reducing nighttime accidents and the associated costs to healthcare, crime, and families. Fewer accidents mean less strain on communities public services, freeing up resources for other critical needs like education and infrastructure.

Crime rates also decline as well lit streets and public spaces deter criminal activity. The community feels safer, and people begin to gather outdoors after dark, strengthening social ties and revitalizing local economies. Businesses can stay open later, attracting more customers and generating additional revenue, which directly contributes to community growth and safer, more vibrant communal spaces, encouraging social interaction and supporting economic activities like night markets, further boosting local economies.

iLamp's modular design allows for further innovation and economic opportunity. Communities can use the streetlights as platforms for additional services like communications, environmental sensors, or security cameras, all of which can be monetized to create new revenue streams.

iLamp doesn't just provide light—it empowers communities to address their own challenges. For instance, local farmers can integrate agricultural sensors into the streetlights, improving crop yields by monitoring soil moisture and temperature. These local innovations can be exported internationally as "Made in Africa" solutions, creating new economic opportunities and boosting the continent's global standing in technology.

By opting for iLamp, African communities are doing more than installing streetlights—they're investing in a future of economic growth, social well-being, and sustainability. iLamp enables communities to take charge of their own development, solving local challenges and creating new opportunities through innovation and cost savings.



# 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 he 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.


# Sierra Leone, Meet iLamp

**iLamp is a smart streetlight proven to reduce crime and save lives**, self powered and self sufficient, iLamp is easy to install, robust and reliable. iLamp is always on, immune to power cuts and grid outages, prodiving a sustainable energy solution. When everything else goes down, iLamp stays up.

But it’s more than just a light, it's a power source, a community asset, and a step towards energy independence. Resistant to sand, snow, dirt, water, and floods, its innovative cylindrical solar panel cleans itself, ensuring continuous power generation in any environment.

As a modular system iLamp is a platform for innovation, enabling developers to create plug and play modules that use iLamp’s sensors and communications for advanced functionalities.

Each module pays for its space and resources used, creating a marketplace of capabilities. Software developers can submit apps to the iLamp App Store, leveraging its onboard senses to deliver services ranging from environmental monitoring to public safety.

**Each iLamp is a mass rolled out miniature microgrid**, generating reliable, resilient, sustainable energy exactly where it’s needed.

Modules are billed for the power and onboard services such as data transmission and sensor access, creating an ecosystem where energy and functionality come together seamlessly. With this proven microgrid in a smart streetlight solution, iLamp Africa is uniquely positioned to address the broader energy challenges faced by countries like Sierra Leone, where reliable electricity access is still a luxury for many.

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, community leaders, and local consultants, ensure that each iLamp is a perfect fit for the community it serves, enhancing he vibrancy and sustainability of cities around the globe.

**iLamp is constructed in local Micro Factories,** iLamp Africa provides the blueprint to develop these microfactories, creating local jobs and fostering economic growth at a local level.

Designed to produce high mix, low volume lamps, allow for the customisation of streetlights that fit the specific requirements of each community. This flexibility ensures that iLamps are not just functional but also align with the unique character and needs of Sierra Leone.

**Significant energy potential and significant challenges are present in Sierra Leone** energy potential  exists in biomass, hydro, and solar sources,

but these resources remain largely underutilized.

The country's energy consumption is dominated by **fuelwood biomass, making up 80%**, while **imported petroleum products account for 13%**.

**27.5% of the total population has access to electricity**, with rural areas being especially underserved. The power sector is small and unreliable, with less than 150 MW of capacity and one of the **highest electricity tariffs in the sub-region**.

The government has initiated reforms to attract private sector investment, established regulatory bodies, and created projects to expand rural energy access.

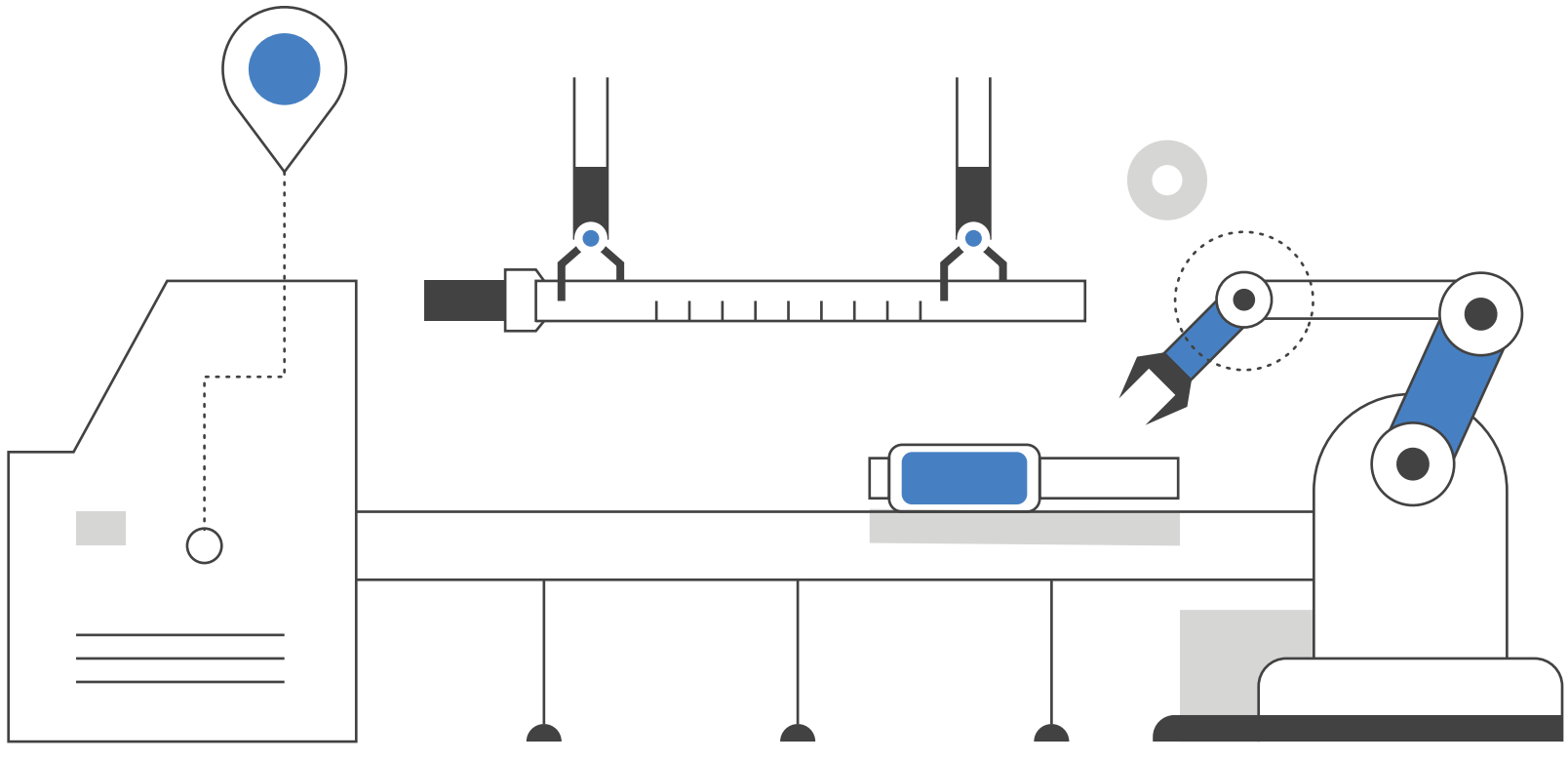
**Solar opportunities exceed 240 MW**.

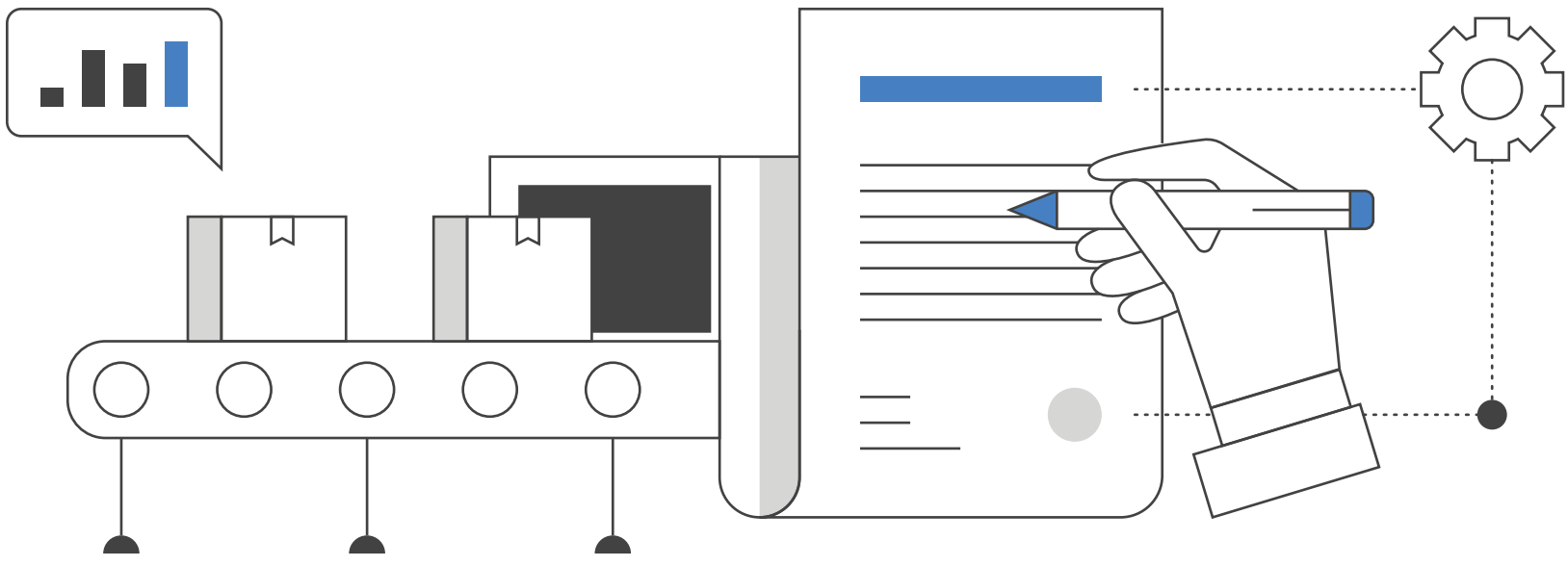
**Electricity Access:** 27.5% nationwide, only 4.9% in rural areas.

**Current Capacity:** Less than 150 MW, heavily subsidized, with high tariffs.

**Renewable Potential:** Over 1000 MW in hydropower and 240 MW in solar energy.

**Key Challenges:** Seasonal variation, aging infrastructure, high costs, and inadequate investment.





## Sierra Leone, Join iLamp

The energy challenges faced by Sierra Leone require more than just traditional solutions. They demand an approach that is flexible, resilient, and locally adapted. iLamp, has laid the groundwork for building customised microgrids that go beyond lighting to deliver reliable, resilient energy solutions tailored to the specific needs of each region.

iLamp itself is a smart streetlight system, but its core technology, design principles, and deployment strategies are directly applicable to creating scalable microgrids.

iLamp's expertise in developing and implementing modular, autonomous power systems has provided invaluable insights into managing diverse environmental conditions, meeting varying energy demands, and integrating multiple functionalities into a single platform. This unique experience translates seamlessly into designing regional microgrids that can deliver energy security, economic growth, and community resilience.

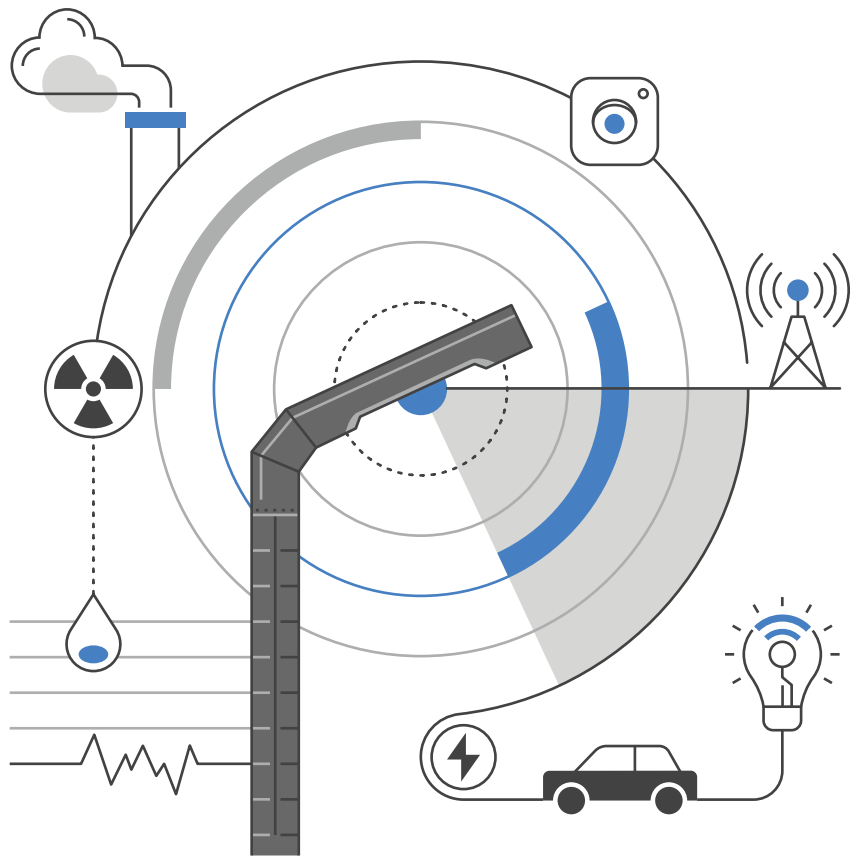
**iLamp Microgrids:**

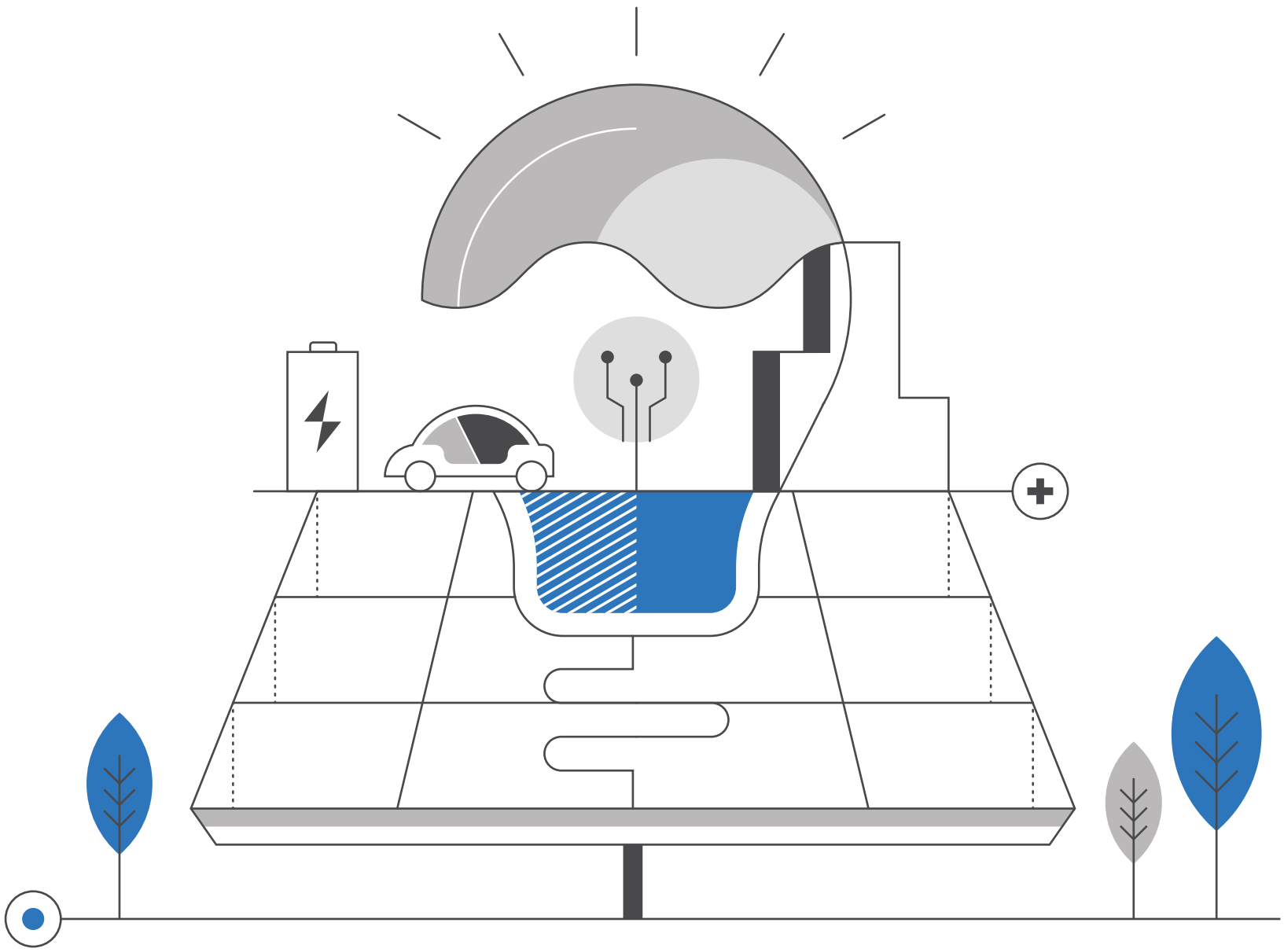
**Tailored Energy Solutions:** Each microgrid is customized based on local energy profiles and needs, balancing generation and storage for maximum efficiency and reliability.

**Scalability and Adaptability:** Starting small and scaling up as the community's needs grow, each microgrid can be expanded to support residential, commercial, public infrastructure.

**Reduced Dependence on Fossil Fuels:** By integrating renewable sources and leveraging energy harvesting techniques, microgrids reduce reliance on costly imported fuels.

**Sustainability and Community Ownership:** Localised manufacturing and job creation ensure that the community has a direct stake in the project's success, fostering long-term sustainability and local economic empowerment.





# iLamp Africa Micro Grids

In Sierra Leone, traditional energy infrastructure is limited - the deployment of tailored microgrids presents an immediate and long term solution to energy access challenges. These microgrids can:

**Expand Energy Access:** Electrify remote and underserved areas quickly, providing power where it's needed most.

**Support Critical Services:** Ensure reliable power for hospitals, schools, and emergency services, enhancing public health and safety.

**Enhance Economic Growth:** Power small businesses and agricultural operations, fostering local entrepreneurship and economic resilience. iLamp Africa, backed by iLamp's strong track record, offers assurance that these solutions are field tested, adaptable, and ready to be scaled. By leveraging this experience, Sierra Leone can embark on a journey towards a more reliable, sustainable, and inclusive energy future.

iLamp's expertise in building modular, autonomous power systems has set the stage for creating customized microgrids that provide reliable, resilient energy where it is needed most. By leveraging renewable sources, reducing reliance on imported fuels, and empowering local communities through job creation and manufacturing, iLamp offers a scalable, sustainable approach

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

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

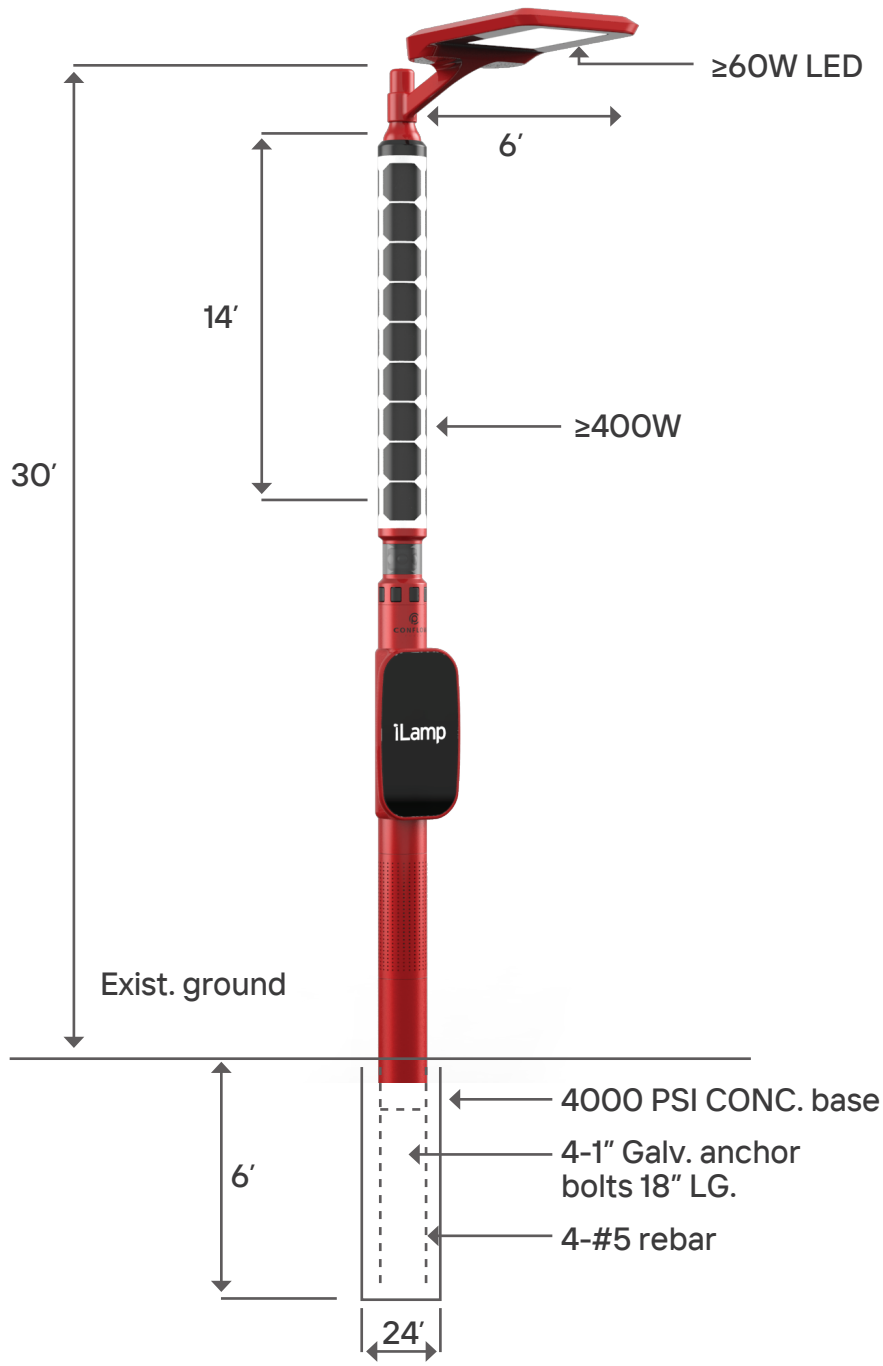
**SUSTAINABILITY:** Reduces carbon emissions while supporting long-term energy security.

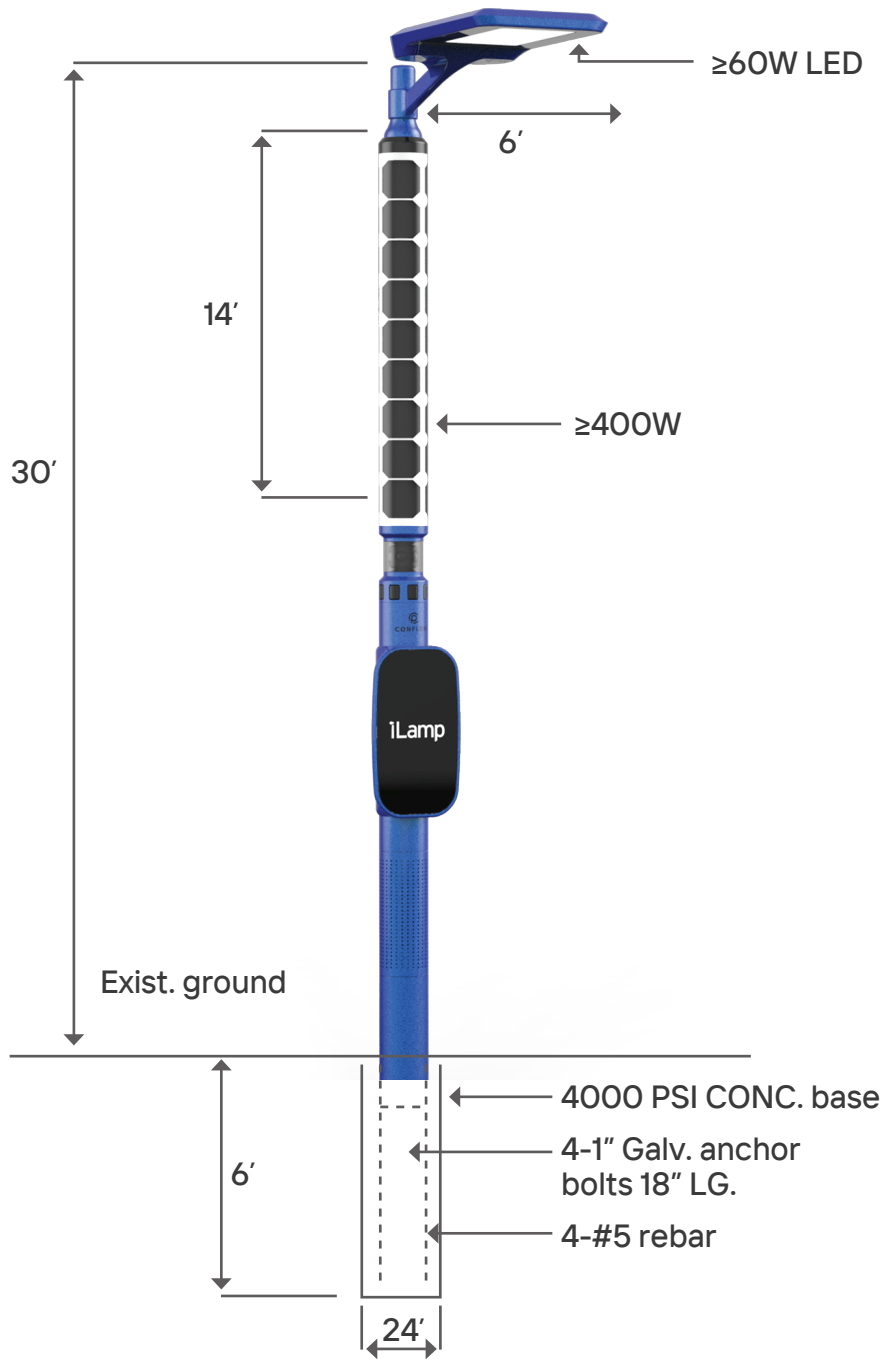

**COST-EFFICIENCY:** Minimises reliance on expensive fuels, lowers overall energy costs for communities.

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

# Standard Drawings

Height, modules and light arm and heads are all interchangeable




≥60W LED
6′
14′
≥400W
30′
iLamp
Exist. ground
6′
4000 PSI CONC. base
4-1″ Galv. anchor bolts 18″ LG.
4-#5 rebar
24′

| Broad Specifications | Standard Pole (Single Solar Module) |
|---|---|
| Hardware | Patented Adjustable Aluminium Array |
| Solar Panels | ≥400W, wrap around, glass covering |
| Battery Pack | 12V, 75AH Lithium Ion / Conflow Device 12V |
| Lighting & Charge Controller | Exclusively Supplied by CPG |
| LED Light | ≥60W LED, ≥160 lumens per watts |
| Dimensions (length) | Variable (depending on site conditions) |
| EPA | 5.26ft$^2$ |
| Weight (lbs.) | 200 |

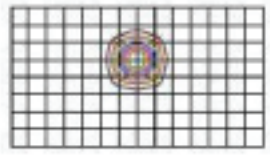
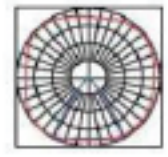
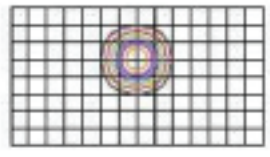
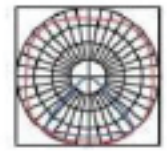
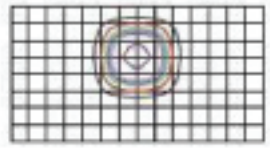
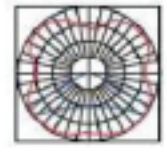
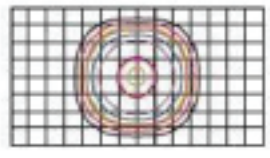
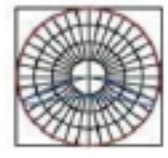
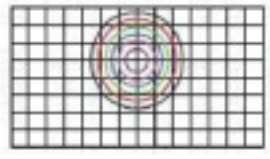
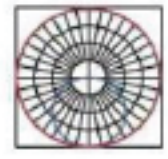
| Lighthead | |
|---|---|
| Dimensions | 10.66" OD x 164.5" L |
| Material mounted to | Wooden, Aluminium, Steel or Concrete |
| Internal Mounting Options | Adjustable universal arm mount for poles up to 5" OD |
| Material | Anti-corrosive mounting hardware and array |
| Shape | Circular backing panels |

| LED Lights | LED Lights 50-50W Lantern or Street Light LED |
|---|---|
| Lumens | 162 LM/W |
| Input Voltage | 24V |
| CRI Minimum | 70 (80 or 90 available special order) |
| CTT | 4000K, 5000K (3000K and 5700K available special order) |
| Lighting Type | Solid state LED. T4M & T3L stocked. Other types available special order. IES Files available upon request |
| Life | >100,000 hours |
| Safety Certification | IP65, UL 1598, UL8750, CE, CB, ANSI C136.31-2001, RoHS Compliant, Meets Buy American requirements with ARRA |

| Solar Arrays CIGS | 400W |
|---|---|
| Cell Efficiency | 15.9% |
| Rated Peak Power (Pmmp) | 400 watts |
| Power Output Tolerance | +5/-0 |
| Open Circuit Voltage (VoC) | 62.6 |
| Max Power Voltage (Vmpp) | 50.2 |
| Short Circuit Current (Isc) | 4.56 |
| Panel Length (mm) | 3457 |
| Max Power Current (Impp) | 3.99 |
| Safety Certification | UL 1703, IEC 61646, IEC 61730, cUL 1703, IEC 62716, IEC 61701 (Salt Spray) |
| Manufacturer Warranty | 90% at 10 years, 83.5% at 20 years, 80% at 25 years |

| Batteries | Lithium Ion / ConFlow device Battery Pack |
|---|---|
| Nominal Capacity | 75AH |
| Nominal Voltage | 24V |
| Operating Voltage | 20.0V up to 29.2V |
| Max Discharge Current | 20A |
| Impedance | < 100m |
| Dimensions | L = 31.5cm, W = 23.0cm, H = 14.0cm |
| Weight | <16kg |
| Temperature Range | -30°C to +60°C |
| Expected Life | 12-15 years based on shallow discharge of 4,500 Life Cycle |
| Autonomy | 8 Days |

| MPPT / BatteryWare | Controller |
|---|---|
| Max Open PV Voltage Max Current | 75.0V DC 15 amps |
| Battery Voltage Battery Current | 29.4V DC 3.0 mps |
| Light Voltage Light Current | LED Specific |
| Dimming | 0-5V DC |
| Efficiency | 98% peak efficiency |
| CTemperature Range | -30°C to +60°C |
| Communications | Bluetooth Connection / Wifi where available |
| Safety | EN/IEC 62109-1, UL 1741, CSA C22.2 |

| | ISO Plot | Polar Curve | Cu Graph |
|---|---|---|---|
|  |  |  |  |
| **T5 S** Average beam angle 60° | | | |
|  |  |  |  |
| **T5 M** Average beam angle 90° | | | |
|  |  |  |  |
| **T5 L** Average beam angle 120° | | | |
|  |  |  |  |
| **T5 X** Average beam angle 150° | | | |
|  |  |  |  |
| **T5 D** Diffuser | | | |