

certified

by
LEDCOM INTERNATIONAL

*A Single Solution
for
Lighting, Smart City & 6G Infrastructure*

Oct. 2021

Based in Milan (Italy), LEDCOM International is one of the most innovative start-ups in the lighting & smart city business



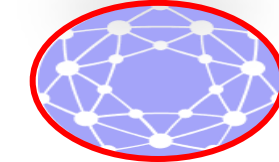
BEST START-UP Chintaly event (Milan, 2016)



2nd Best START-UP ITTN event (Shenzhen, 2017)



Finalist MY StartUp event (Barcelona, 2019)



2nd Best START-UP International Forum – Power Grids (Moscow, 2019)



INCUBATED BY: POLIHUB, POLITECNICO MILANO 1863



ACCELERATED BY: TECH RANCH Austin (TX), USA



FUNDED BY:

EU INNOvative business solutions in WorldWIDE markets

Team

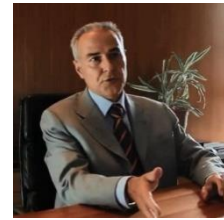
**very experienced in tech ventures locally and internationally
(USA, UK, Europe, South America...)**



Mauro Tosi
Founder & CEO



Anders Leideman
Business Dev.



Max Santi
Co-founder & COO



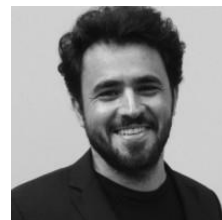
Fabio Salierno
Sales Director



Marco Alberti
Procurement



Aurelio Colosimo
Senior Firmware
Engineer



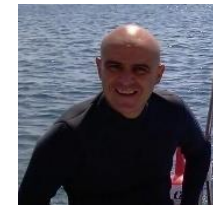
Hamid Aslani (PhD)
mmWaves &
Antenna Engineer



Giuseppe Salvaggio
Hardware & Power
Electronics engineer

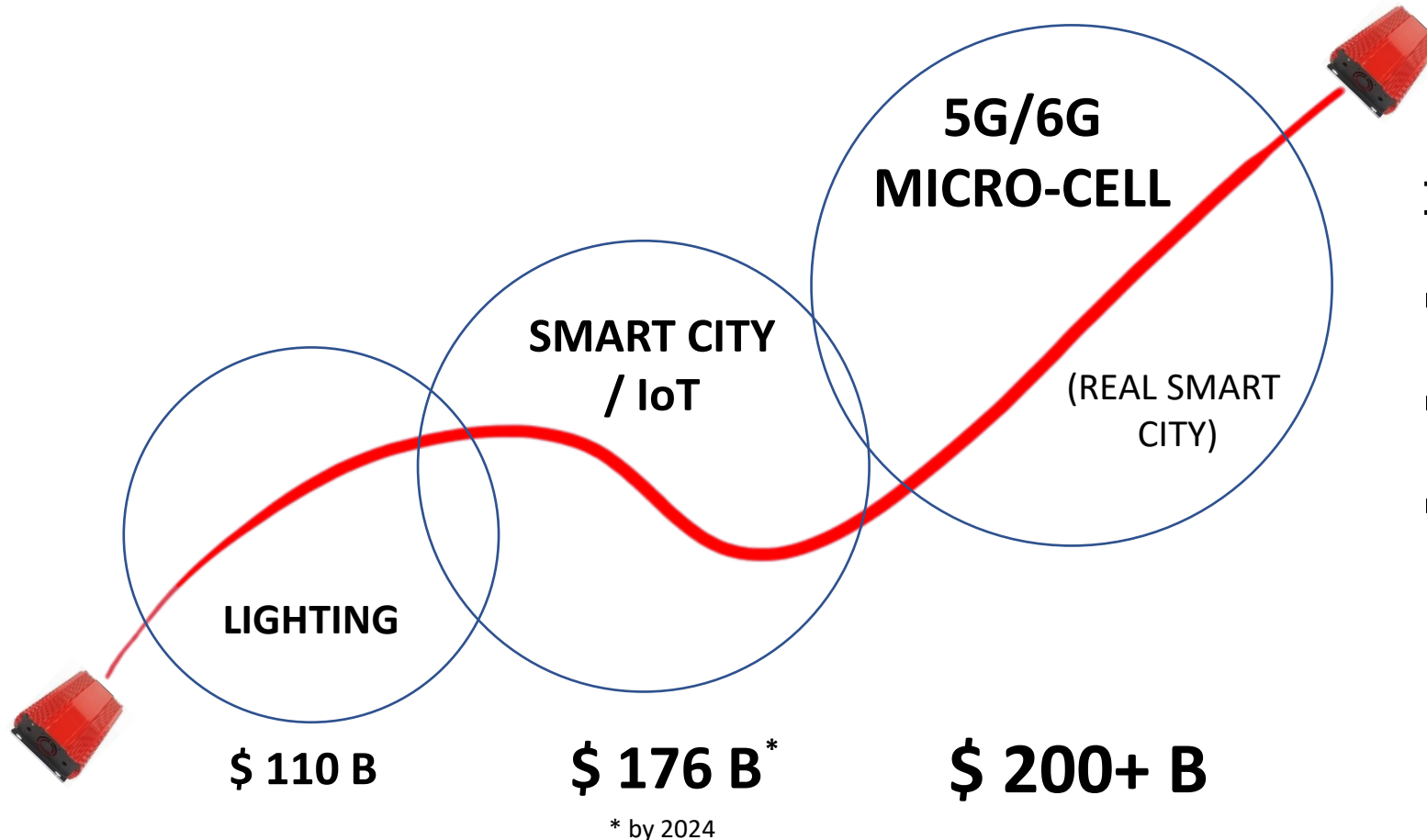


Marco Persona
Senior Application
Engineer



Andrea Feo
Electronics
Engineer

Through the evolution of the same device (the LED driver) Ledcom addresses 3 of the largest markets:



Ledcom revenues are from

- **Lighting: one-off**
- **Smart city: 50% recurrent**
- **6G micro-cell: recurrent!**

Sources: IDC Worldwide Semiannual Internet of Things Spending Guide, IoT Analytics, McKinsey, Ledcom analysis

Ledcom develops the power supply inside the lamp (LED driver)

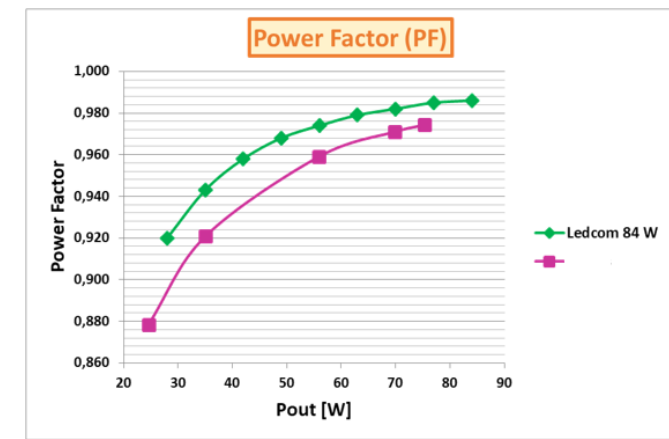
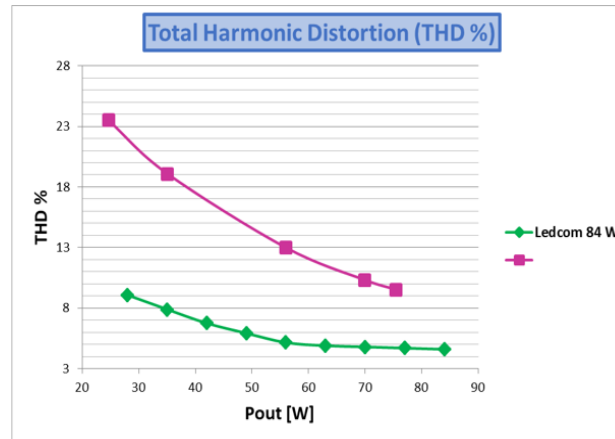
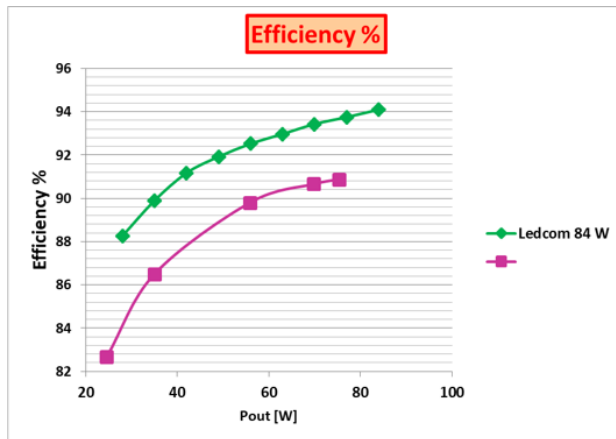


*Italy, US, Russia, EU, China, HK, Canada, India
working on 3 more patents, one pending*

Your LED Efficiency and Reliability Depends on the Driver!

LED COM Wireless LED Driver vs. Leading Competitor

- ✓ *Top Performance!*
- ✓ *Ultra Energy Saving*
- ✓ *Integrated Wireless: no additional box on the pole for remote control*



(*) Data from Wireless LEDCOM Driver mod_84W (100mA-1200mA) – Setting Iout at 700mA vs. leading competitor mod_75W (700mA)

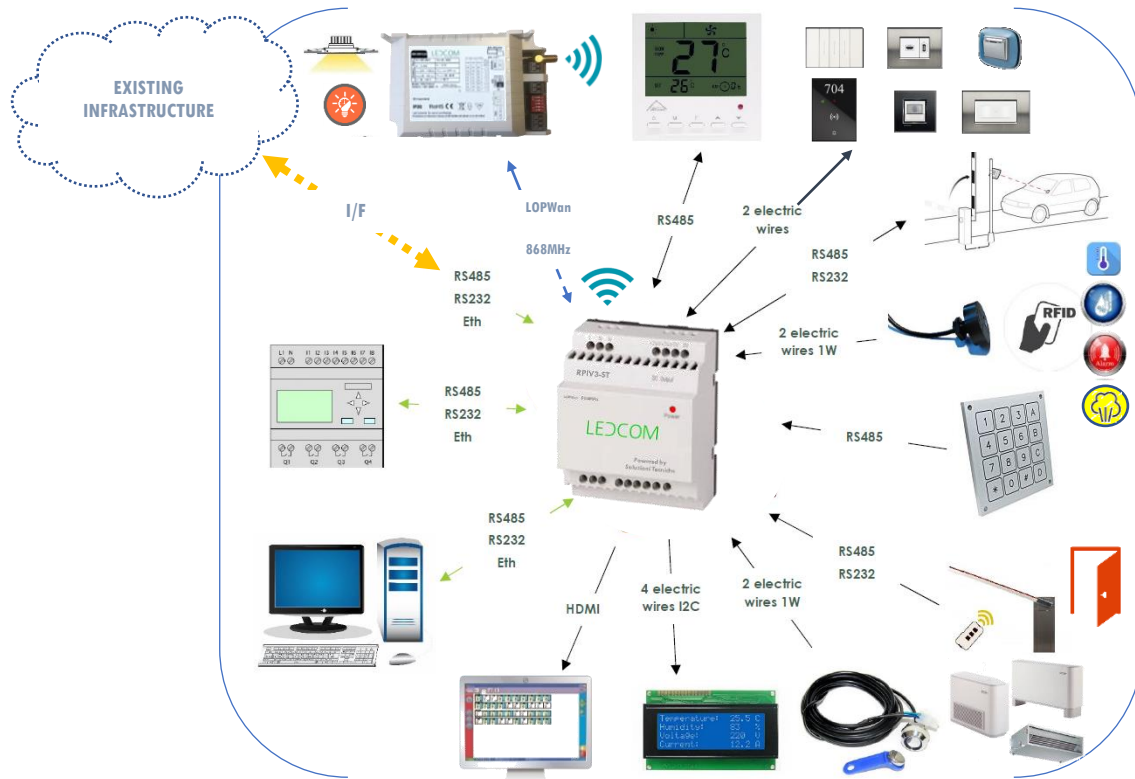
LED Driver with Integrated Wireless Controls + Smart City/IoT

- *IoT & SMART CITY FUNCTIONALITY* (parking management, gas meter reading, traffic sensors, pollution & temperature detection...)
- *NO NEED FOR ADDITIONAL BOXES ON POLE*
- *PROTOCOL AGNOSTIC* (169 MHz/Modbus, 433 MHz 868 MHz/LoRa)
- *VERY COMPETITIVE COST*: sharing electronics between lighting and communication (power stage, microprocessor...), single container, single installation
- *INVISIBLE*: everything in the driver inside the luminaire

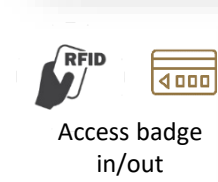
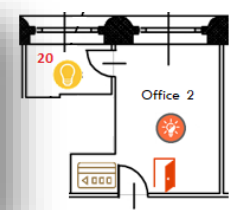


**competitors utilize many boxes on pole for transmission:
no driver integration**

Indoor Remote Management: Home Automation



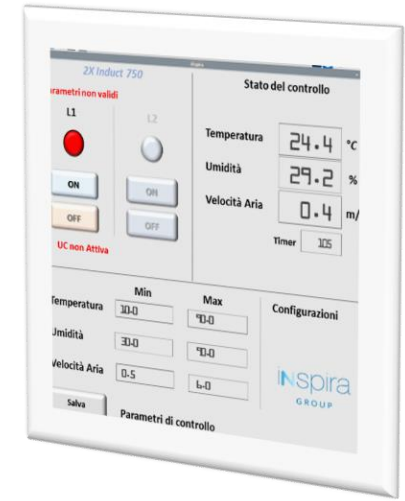
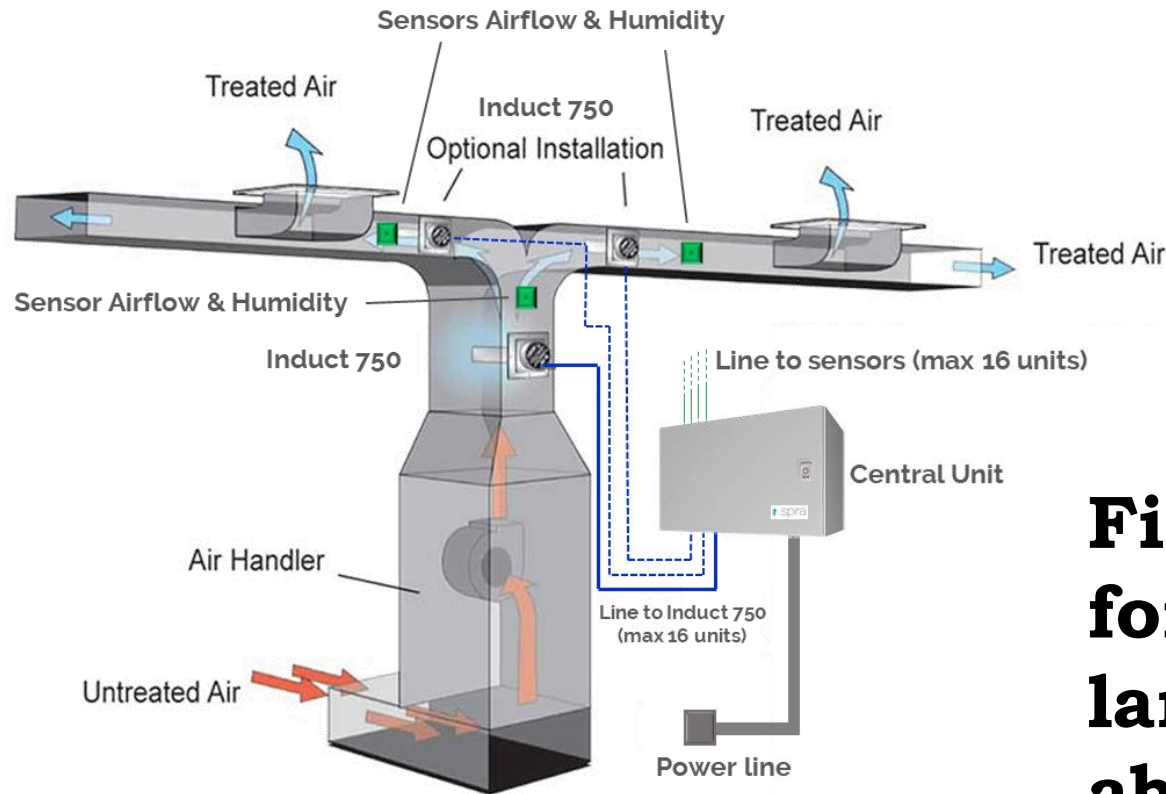
Control Dashboard



- ALARM – Level 1 (ex: light on/off, motion detection...)
- ALARM – Level 2 (ex: access badge, open doors...)
- ALARM – Level 3 (ex: smoke detection, ...)
- ALARM – Level 4 (ex: intrusion detection, ...)

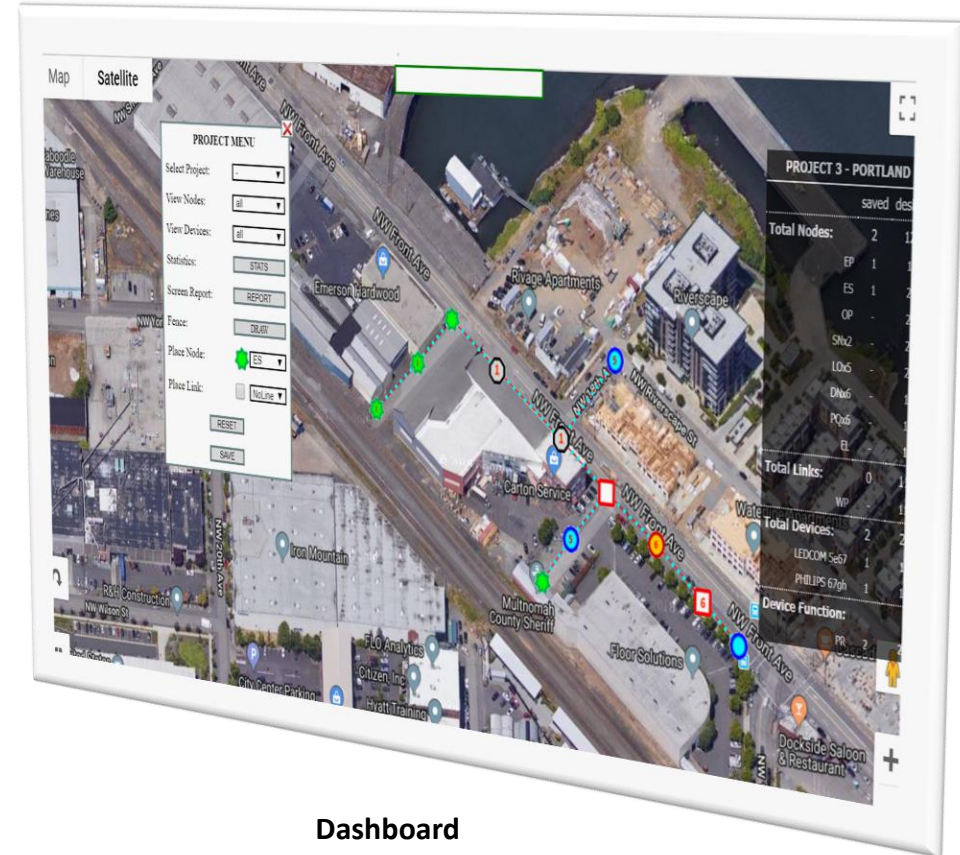
... not only lights!

Indoor: Sanification Lamps Controls



First sensor control system for UV or UV-Led sanitizing lamps: no emitted substance above legal threshold (ex: H_2O_2 , O_3)

Outdoor: Street Lights Remote Management



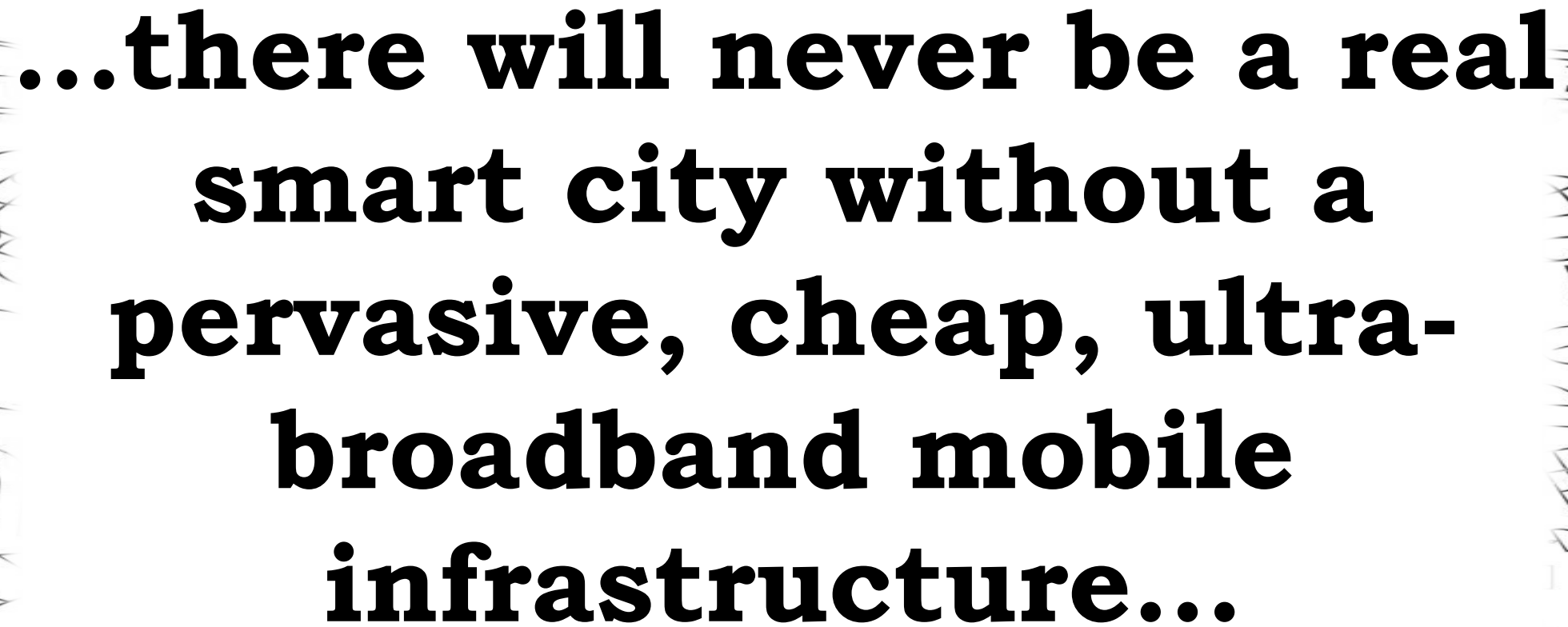
POLENet
Ledcom Management Software

Dashboard

Energy Saving, Safety, Smart City Apps!

Lighting Infrastructure for Smart City Services

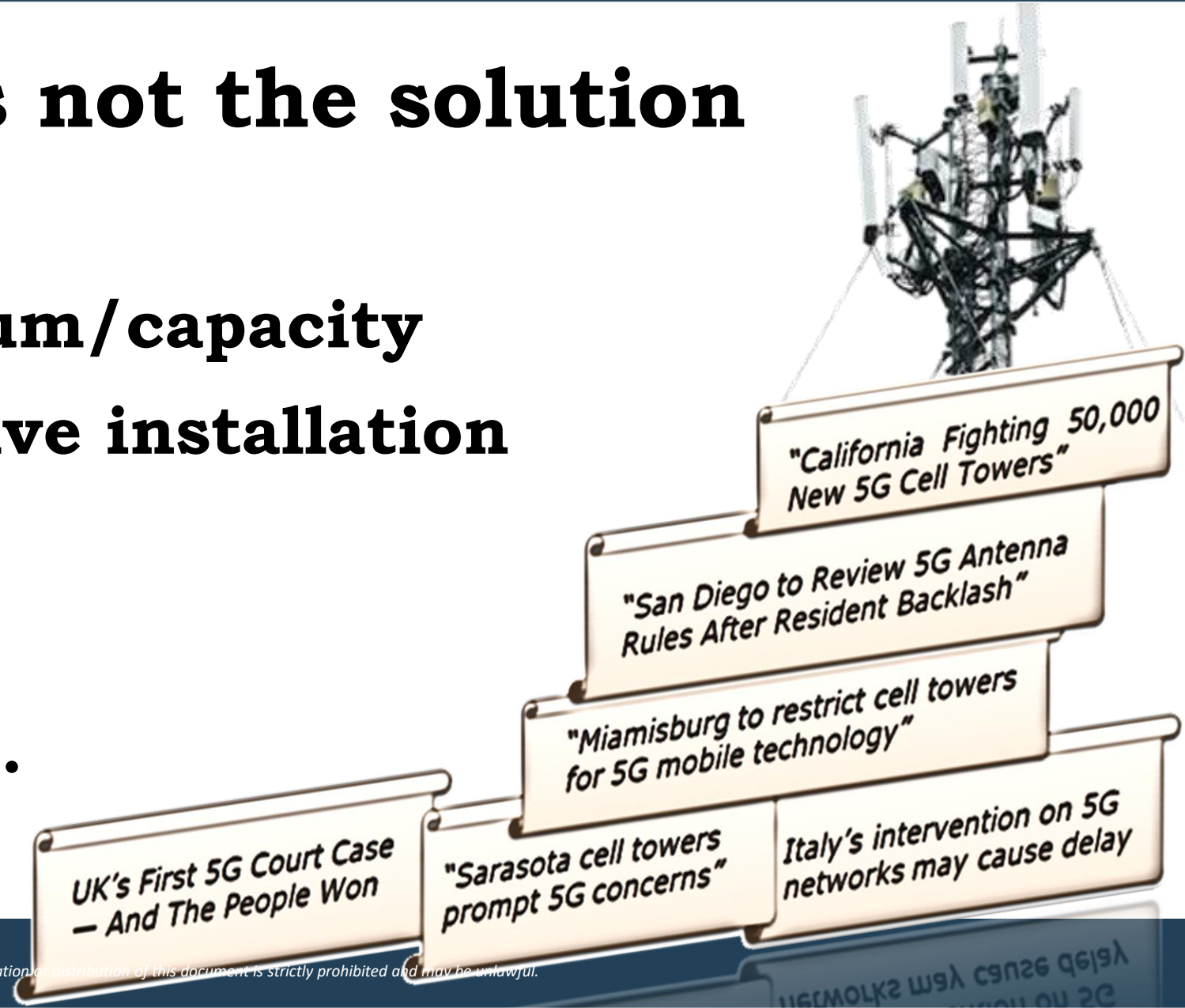




...there will never be a real smart city without a pervasive, cheap, ultra-broadband mobile infrastructure...

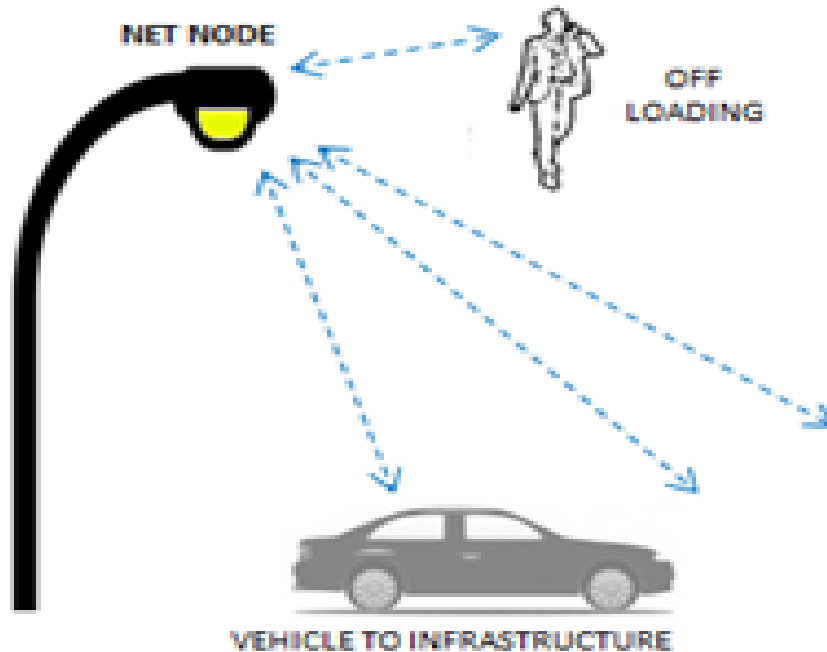
and 5G alone is not the solution because

- it lacks spectrum/capacity
- difficult/invasive installation
- power hungry
- expensive
- health hazard...



Ledcom's ultimate LED driver, CellLED®

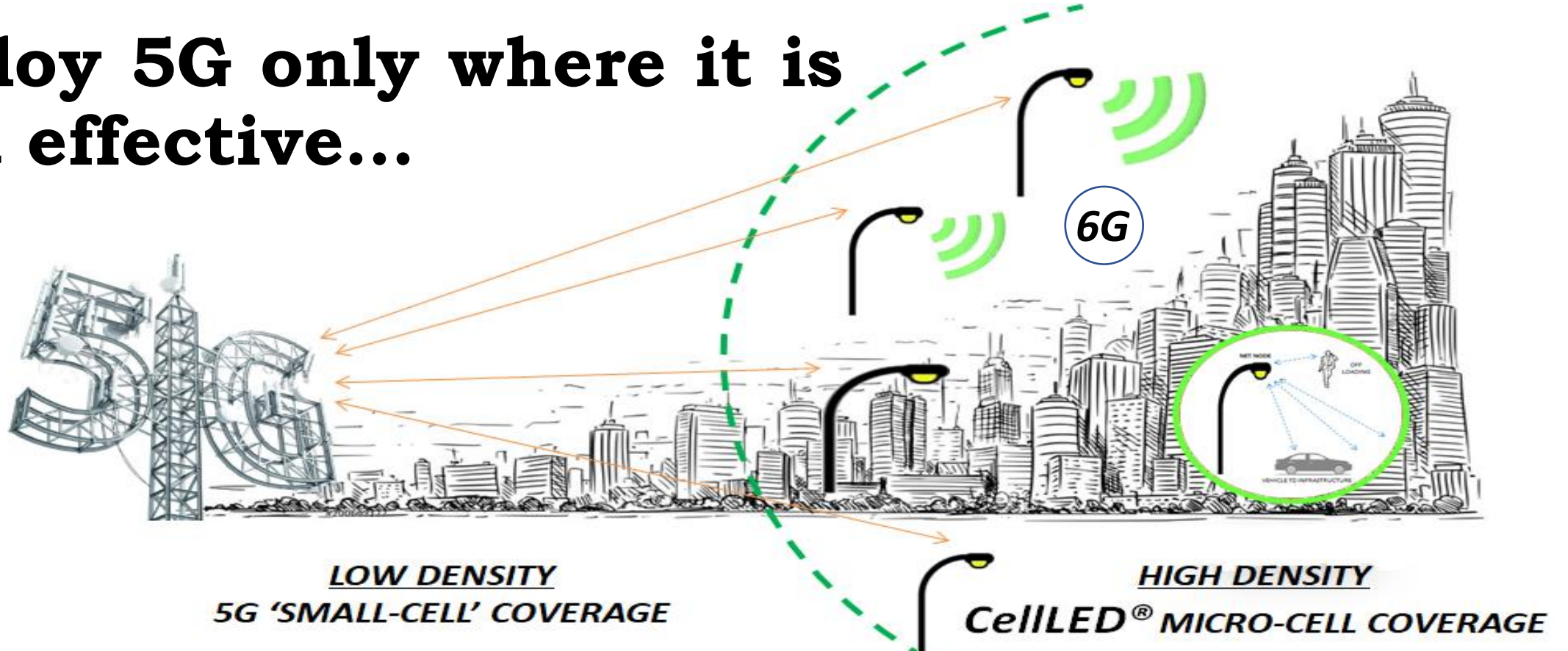
**PATENT
PENDING**



- ***Saves Light Energy...***
- ***Provides Real Smart City Services...***
- ***Extends/Replaces the 5G Network...***

...PROVIDING A NEW 6G NETWORK AT A FRACTION OF THE COST

Deploy 5G only where it is cost effective...



... and extend its reach and performance with CellLED®

5G small cells are difficult to deploy, whereas LED drivers are everywhere



We turn each LED point into a ultra high-capacity mobile 6G micro-cell

CellLED® is also a concept shift

Not only municipalities and utilities:

**private lights, signage or display owners
are eligible to become a network node
and earn for every byte of carried traffic**

Two Sources of Revenue:

1: Municipality saves up to 80% lighting energy, pays us with part of savings

2: CellLED® network rented to mobile carriers (with royalty to municipalities)



All Stakeholders Benefit:

- **Municipalities** save energy and cash in royalty, turning a cost center (lamp-posts) into a profit center.
- **MNO and MVNOs** share a high performance network
- **Smart City Service Providers** finally have an ultra broadband mobile network for their advanced solutions (AI, Big Data, Autonomous Vehicles, HD video...)

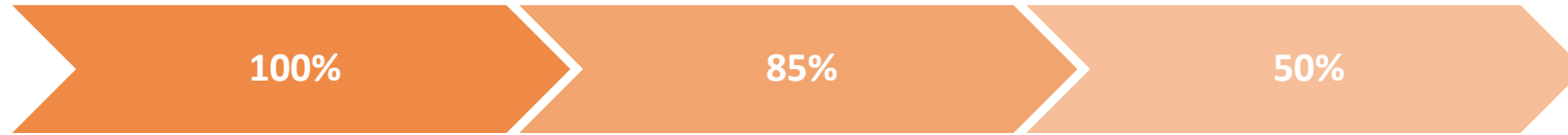


and the end user benefits the most:

- *unprecedented speed + advanced services*
- 100 times lower electromagnetic radiation exposure



Readiness:

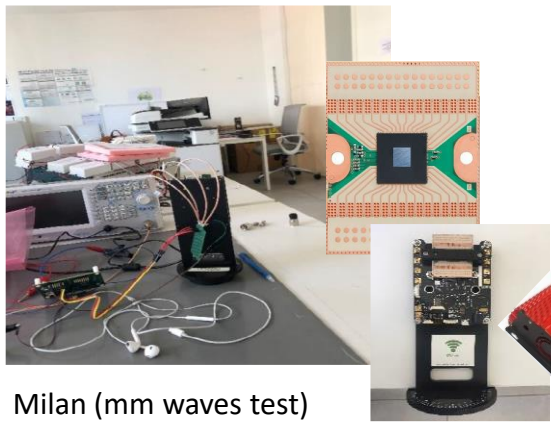


**5G/6G
MICRO-CELL**

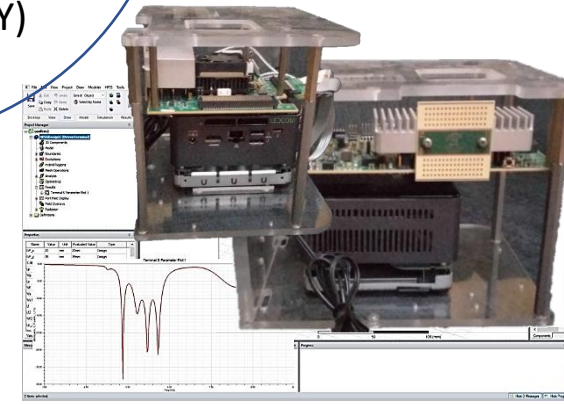
**SMART CITY /
IoT**

**(REAL SMART
CITY)**

LIGHTING



Milan (mm waves test)



Austin, TX (Proof-of-Concept design)

Thank You!

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