

Jerson Kelman
President, *Grupo Light S.A.*



Leaders in Smarter Energy: Experience and Plans



A night-time photograph of the Christ the Redeemer statue in Rio de Janeiro, Brazil. The statue is illuminated and stands atop a dark, rocky peak. The background shows a panoramic view of the city lights and the bay under a twilight sky. The image is overlaid with abstract, glowing blue and white light trails that curve across the scene.

Smarter Cities

Jerson Kelman



Smart Grid

Communication and
real time information

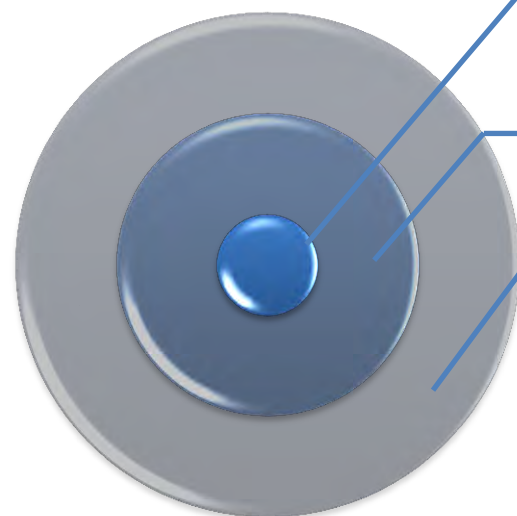
+

Remote operation

+

Operational
intelligence

Georeference and GIS resources are mandatory



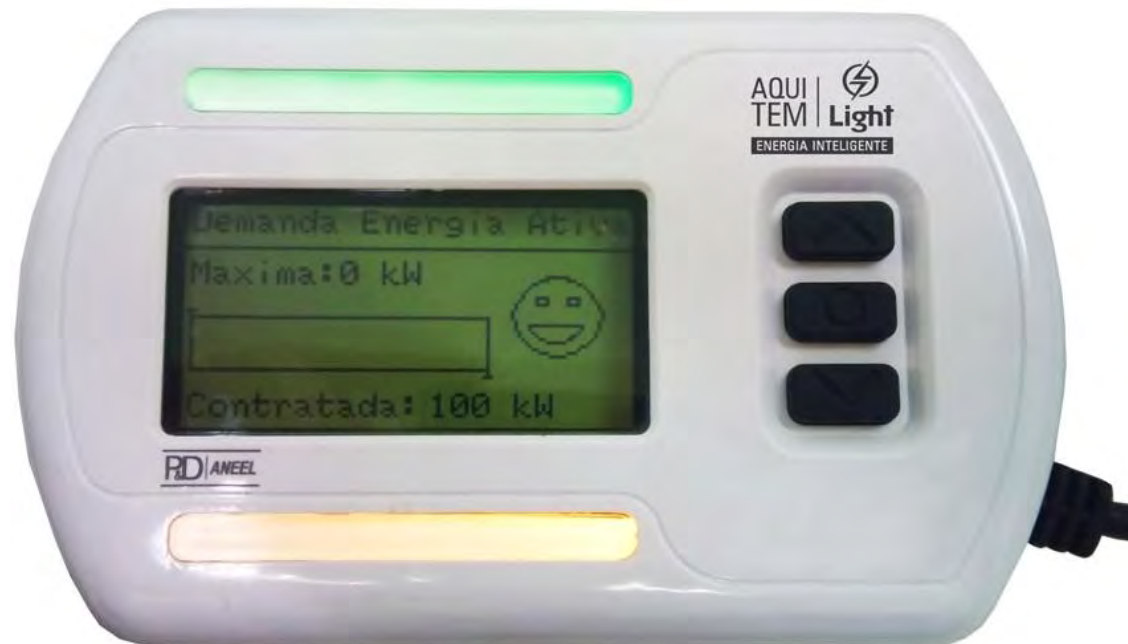
networks and equipment

customers

networks interference
(trees, other utilities networks)

Using
technology
to solve
problems

Best smart grid project in Latin America 2011 granted by Metering Excellence Awards



Light's problem #1 – Energy theft

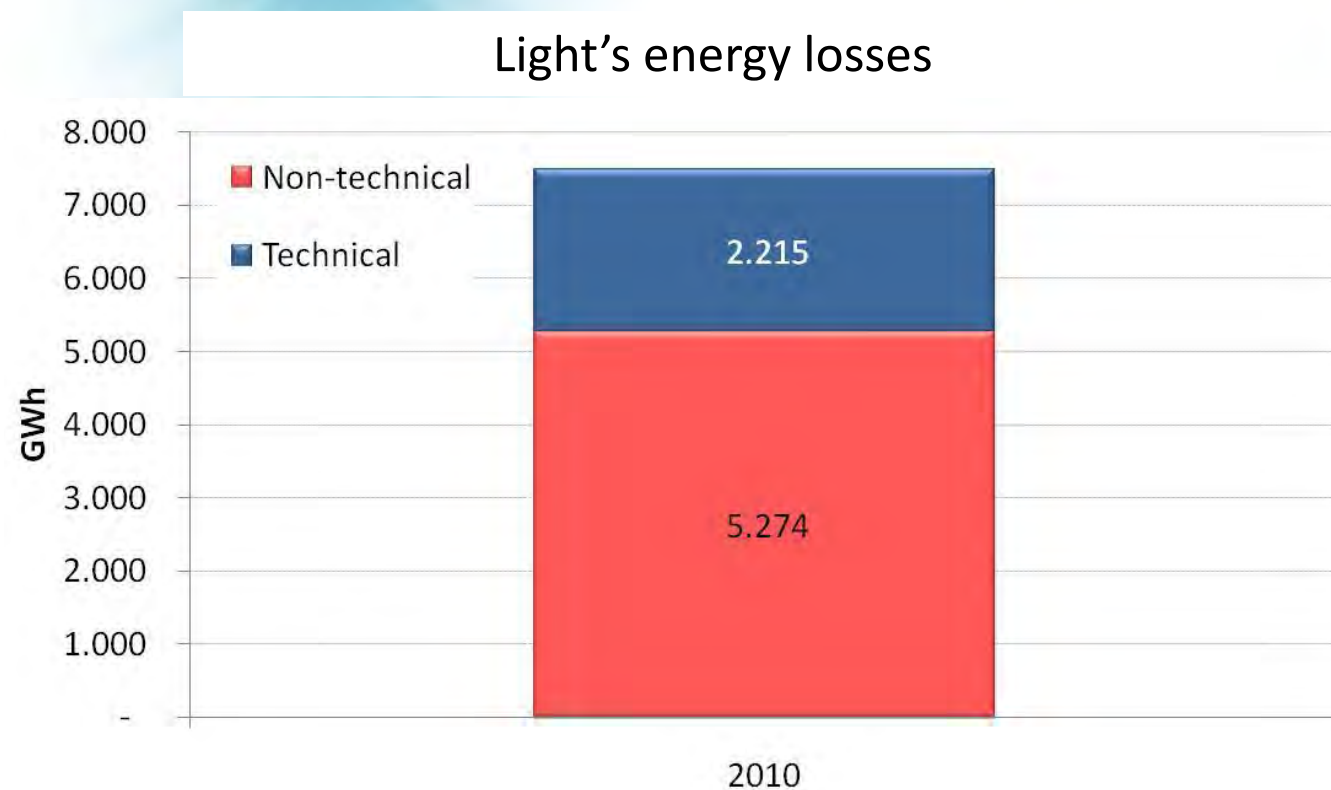
Irregular connections
on the grid



Fraud

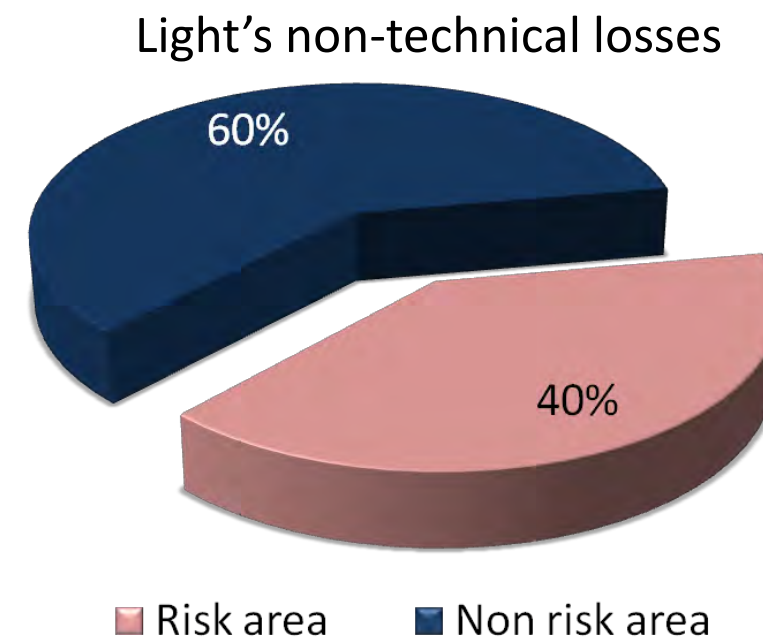


Light's problem #1 – Energy theft



The theft of energy corresponds to the annual consumption of 3 MM households

Besides the high exposure of the networks, there are problems of urban disorder and violence in risk areas



From the urban disorder and violence to citizenship





There are about 350 communities mapped in Rio de Janeiro,
only 10% have UPP

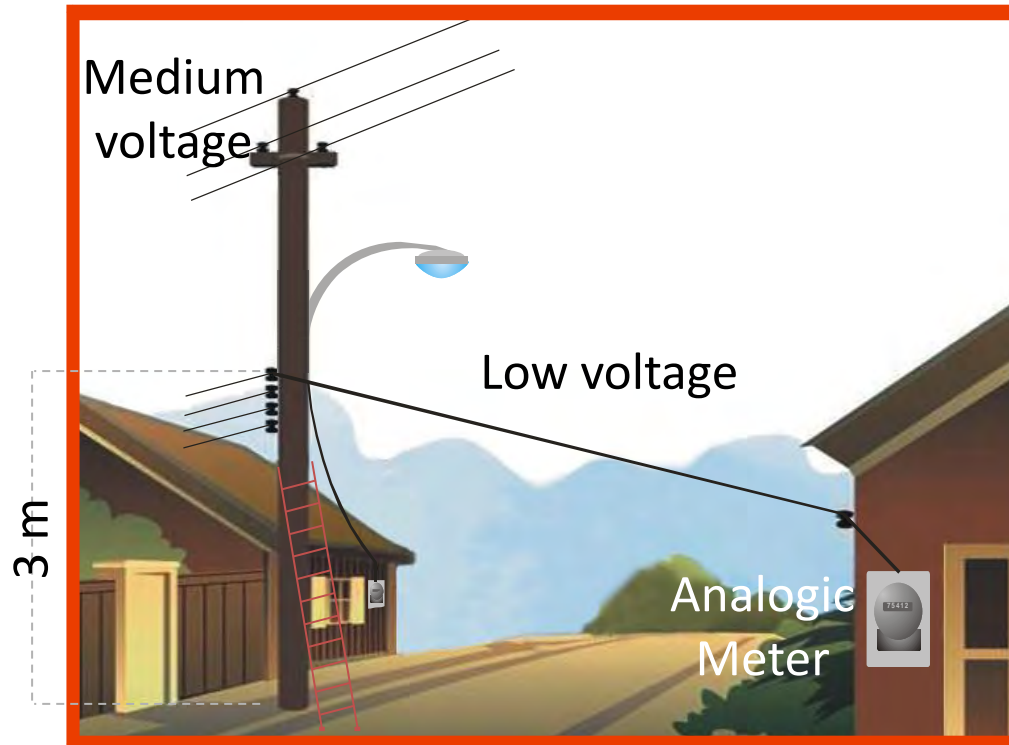
Grid shielding projects

Control room

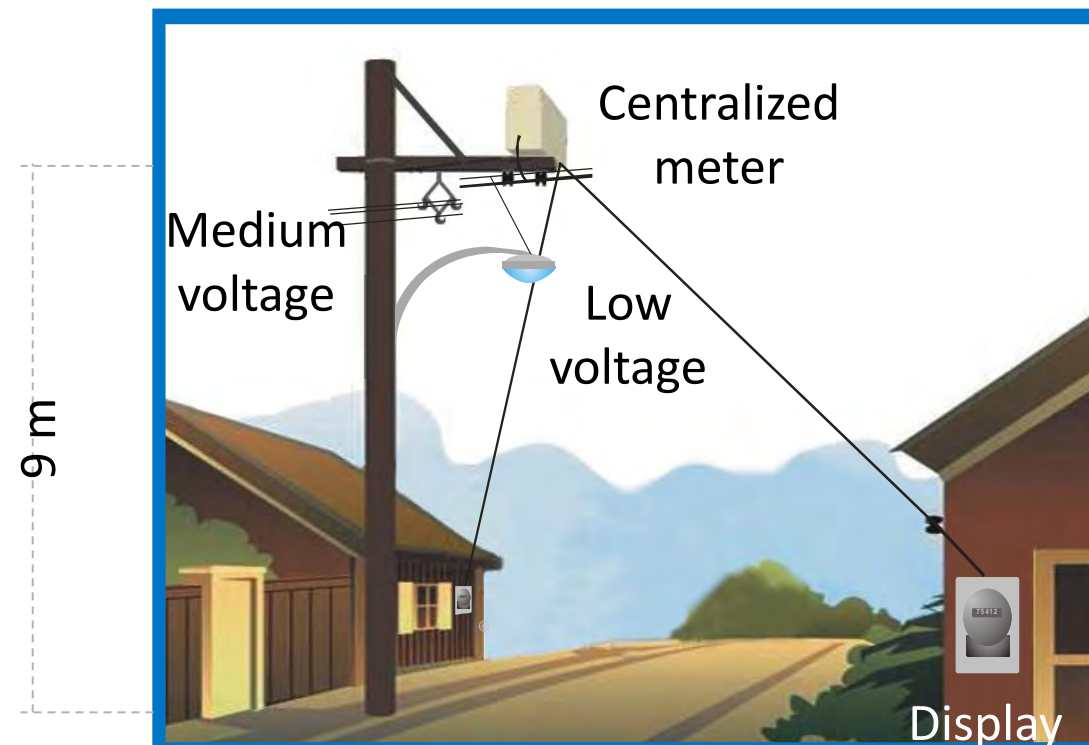


- Technology used in regions in which conventional measures are not effective
- Areas that present high levels of non-technical losses

Current grid
REDE ATUAL



Shielded grid
REDE BLINDADA



Light's challenges in risk areas – Control of energy losses



Electricity Grid Upgrade

Before



After



Electronic Meters



The Santa Marta Community Experience

Before

24 families out of 1,600 regularly paid the electricity bill

- 1,600 families benefited
- ~ US\$ 1,000 per service entrance

NOW

95% of the delivered energy is being paid

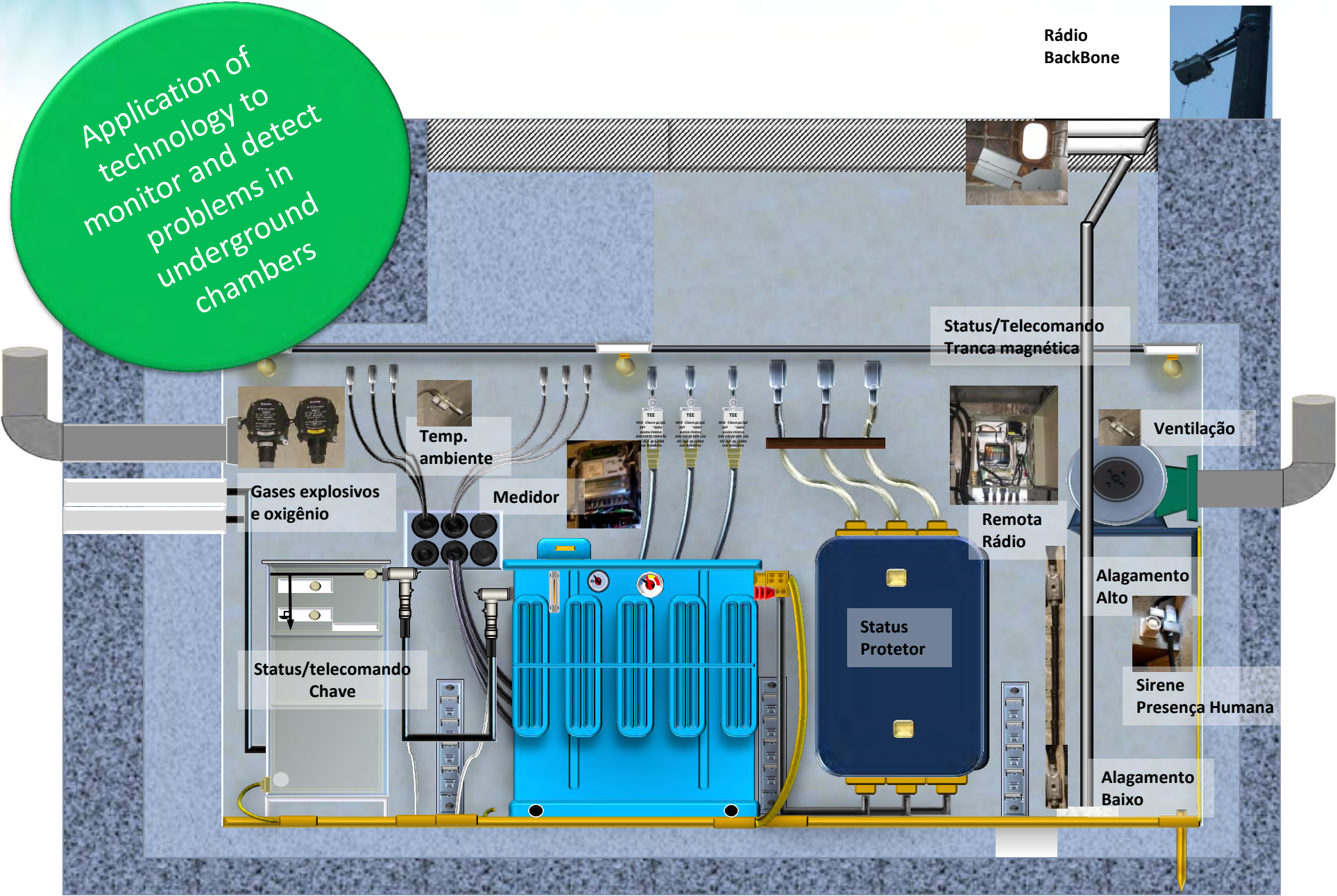


Light's problem #2 – Old underground chambers



- Depreciated equipment
- Theft of cables and equipment
- Intervention of other utilities' networks

Light's problem #2 – Old underground chambers



Thank You!

