Innovation Through the Open Internet

Go Green LED Alternatives

Sandra Goeken Miles 415-524-5967, or e-mail to: s.miles@gogreenled.com

Ensuring a free and open Internet is the only way we can preserve the Internet's power to connect our world and promote advancement in technology and the expansion of knowledge.

There should be no ‘gatekeepers’ between us and the world

Freedom is key principal of the United States Constitution

THEN

John D. ‘Jack’ Goeken
1930-2010

Owned a radio repair business and wanted to expand by building a microwave repeater between Chicago and St. Louis’

- Founded Microwave Communications Inc
- Fought against AT&T monopoly and won

MCI

Heralded a new era in telecommunications, by bringing competition into the market.

New network improved error rate so dramatically that it made Internet possible

In the 80’s MCI partnered with several Universities to provide high-speed telecommunications links between their super computer systems

This was NSFNet using TCP/IP protocol which were developed by the DoD ARPANet – the forerunner of the Internet

MCI became an integral part of the Global Internet’s Foundation

Freedoms gained from the AT&T battle

All of these companies had communications and networking at their core.

Each company was based on new technologies and going in new disruptive directions.

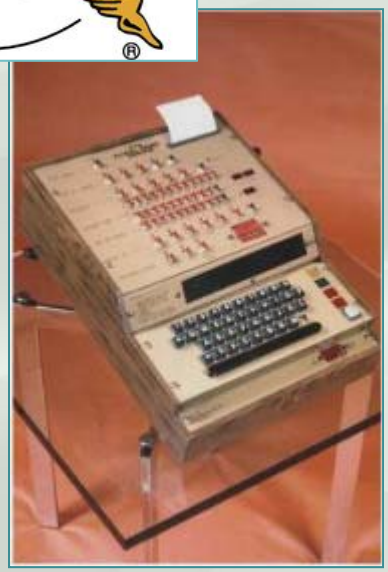
FTD Mercury Network

Airfone

IN-FLIGHT PHONE CORPORATION

History is Changed Forever

The FTD Floral Network



- Known as the Mercury Network
- Used a data only to link customers with florists
- Providing services from any location to any location, quickly and cost effectively linking customer needs with products at a speed that was unprecedented for its time.

Today It processes approximately 15 million orders and messages annually.

The Mercury Network also provides FTD Florists with telemarketing services and PC-based business management applications software

Todd Beamer made the famous call on Airfone

DECEMBER 9, 1985 $3.50

FORTUNE

PRODUCTS OF THE YEAR

Airfone, Inc.®

Featured in FORTUNE MAGAZINE
as one of the
PRODUCTS OF THE YEAR

AIRFONE

Your plane is late, you're at 35,000 feet, and you're going to miss an important meeting. Now you can call. Insert a credit card into an Airfone machine, take the receiver to your seat, and dial anywhere in the U.S. The cost: $7.50 for the first three minutes, $1.25 for each minute thereafter. Created by John Goeken, 50, founder of MCI, Airfone uses airborne telephones linked to a network of ground stations. Goeken reckons that one million people fly somewhere in the U.S. every day. He grandly hopes to land 20% of them.

Carrie Gordon, FORTUNE MAGAZINE.

9-11-2001

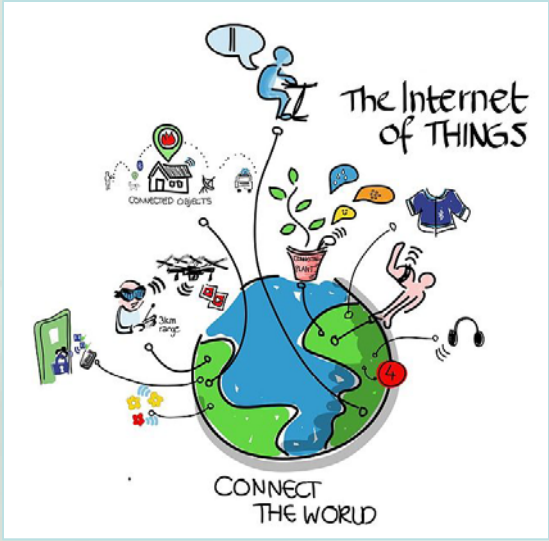
IN-FLIGHT PHONE CORPORATION

150 Seats networked

Data services outsold voice services 5:1

NOW

The Internet of Things (IoT)/Internet of Everything (IoE)



Smart City Vision

- The energy and maintenance saved using LED lighting technology leverages the economic engine that pays for the Smart City Deployment
- Our Consortium's patented technology delivers Broadband wireless connectivity that enables a cost effective Public Internet value to residents, **furthering the value of Net Neutrality**

- The **Unified Broadband Network** will provide vital city services;
  - Law Enforcement,
  - Fire,
  - Maintenance,
  - Public Safety

Integrating Controls into Lighting Enables Energy Efficiency & Demand Response

Borealis Lighting
AC/DC Battery Backup

- Structurally embedded energy efficiency and demand response
- New LED digital technologies provide a natural platform for Intelligent Networking
- New funding approaches allow cost savings and revenue generation to pay for integrated intelligent technologies

Intelligent LED Street Lights
Wireless Monitoring & Management System

Savings:

- Lower Maintenance cost through longer life LED
- Lower operation cost through higher energy efficient LED

Before LED Streetlights

After LED Streetlights

Features:

- Non-Start Detection
- Light Power Monitoring
- Error Reporting Tracks Burn-In Hours
- Dimming when activity is not present
- Wi-Fi Capabilities and Cellular Revenue Capabilities
- Motion /Infrared Sensor Adapter that increases lighting when motion is sensed
- Increased illumination for Emergencies
- Smart battery system that keeps lights on during an emergency or Demand Response load shedding events

Street Light Battery Backup In the Head

- Demand Response
- Emergency Response
- Energy Storage
- Wi-Fi Enabled

BOREALIS℠
Green Lighting for the Future

LV24-ESS LED Light Battery

Low Volt-Energy Storage Systems (LV24-ESS)

- Modular design, low voltage output
- Lithium Ion Cell technology with capabilities of 3,000 cycles (80% DoD)
- Available in custom configurations to extend run-time or match operating voltages

Modularity
The LV24-ESS is designed to be modular in nature. Scalability depending on the demand for energy storage gives the LV24-ESS superior flexibility. Parallel configuration of the LV24-ESS systems allows for customization, similar to our DESS units to achieve specific current and voltage combinations. This system is designed to supply 320Wh of capacity at 24VDC.

Battery Monitoring
The LV24-ESS contains a sophisticated battery monitoring system capable of communicating in a variety of protocols to utility and industrial standards, as well as more commercial standards such as USB and Ethernet. A wide variety of system parameters are tracked and stored inside the LV24-ESS unit itself to ensure a history of every cell; overall performance and accurate forward-looking predictions can be developed from the data.

LV24-ESS LED Light Battery		
System Nominal Voltage	25.3	V
System Voltage Range	21.2-29.4	V
Nominal System Capacity	320	Wh
LV24-ESS Modules	1	
Continuous DCHG Power	320	W
Peak DCHG Power	640	W
Max CHG Rate	1C	
Cycle Count	7,500 @ 50% DoD 3,000 @ 80% DoD Design for 10 Year Life	

LV24-ESS Module

Performance
Versions of the LV24-ESS design are also available in 48V packages, and energy capacity can be customized based upon the need for the application.

Outdoor Lighting Control System
Demand Response / Emergency Response
Dimming and Daylight Harvesting

- Smart battery system
- Use batteries for “neck-of-the-duck” early evening hours
- Keeps light on during blackouts and emergency events
- Increase lighting when movement sensed

Commercial Building Energy Management Solutions

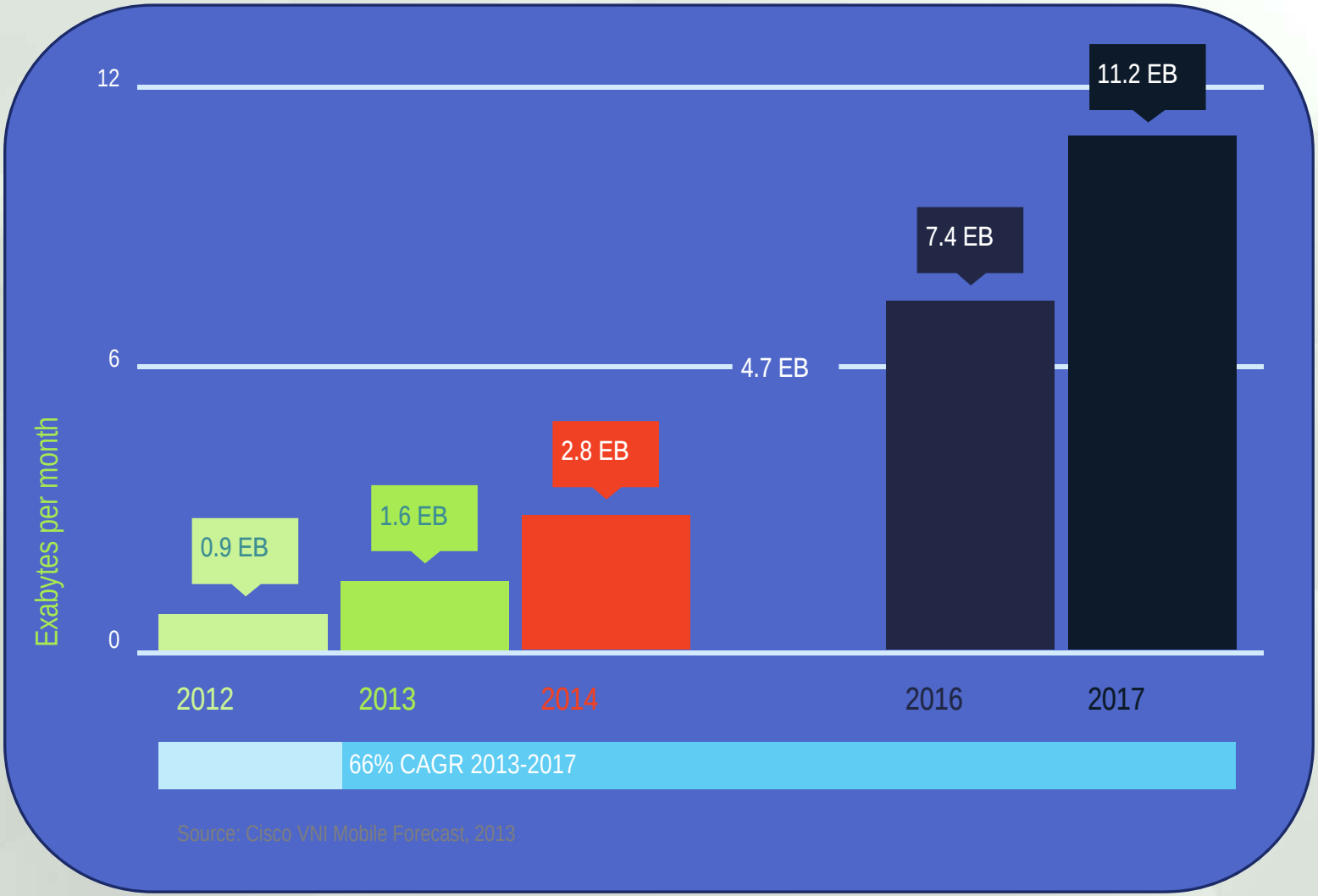
Solutions for Schools - reduce energy consumption in unoccupied rooms
- improve class performance by automatically adjusting temperature to assure teacher-student comfort

Solutions for Business - control of building loads reduces energy use in unoccupied spaces

Solutions for Hotels – to enhance guest comfort in rooms and common areas

Wireless Data Growth

Mobile data traffic is expected to increase exponentially by 2017.



All Centrally Monitored & Managed

Over the Air Commissioning

All Financed Without A Bond or Lease

Innovation: Structured Funding Tailored for EE

LANCE Energy Capital

Lance has developed an innovative service contract funding structure to tap the market for large-scale Intelligent EE & Sustainability Projects – the **Energy Intelligence Funding Solution (EIFS)**

No Upfront Cost to end-user		**Tailored Amortization & Future Proofing**		**Optimized for the Credit Markets**
Provides 100% funding of major EE retrofit and sustainability projects for Corporations, Government, Hospitals and Academic Institutions – with no capital expenditures required by end-users	+	Flexible payment structures can maximize savings in the early years for end-users and/or provide embedded "future proofing" for intra-project investment in new and emerging technologies and systems	+	Private placement/other debt issues provide exposure to Investment Grade credits with yield enhancement – ideally optimized and structured to meet the recognized demand of institutional investors

= Access to the **$25 Trillion**[1] in institutional portfolios hungry for large scale clean energy investments, unlocking billions of dollars in EE projects

1 http://www.forbes.com/sites/mindylubber/2014/03/03/insurers-have-huge-role-as-clean-energy-investors/

July 15, 1996 – President Bill Clinton

Executive Order 13010 - Updated the Federal Information Processing Standards (FIPS) to address cyber security threats in an effort to protect the U.S.

Infrastructure was defined as:

"The framework of interdependent networks and systems comprising identifiable industries, institutions (including people and procedures), and distribution capabilities that provide a reliable flow of products and services essential to the defense and economic security of the United States, the smooth functioning of government at all levels, and society as a whole"

October 8, 2001 – President George Bush

Executive Order 13228 - Updated the standards identifying critical Infrastructure

- telecommunications
- electrical power systems
- gas and oil storage and transportation
- banking and finance
- transportation
- water supply systems
- emergency services
- continuity of government

January 23, 2003 – **National Strategy for Physical Infrastructure Protection**

FIPS was amended to state that wireless mesh technology was to utilize DoD level security Department of Homeland Security has oversight.

February 2013 - President Barack Obama

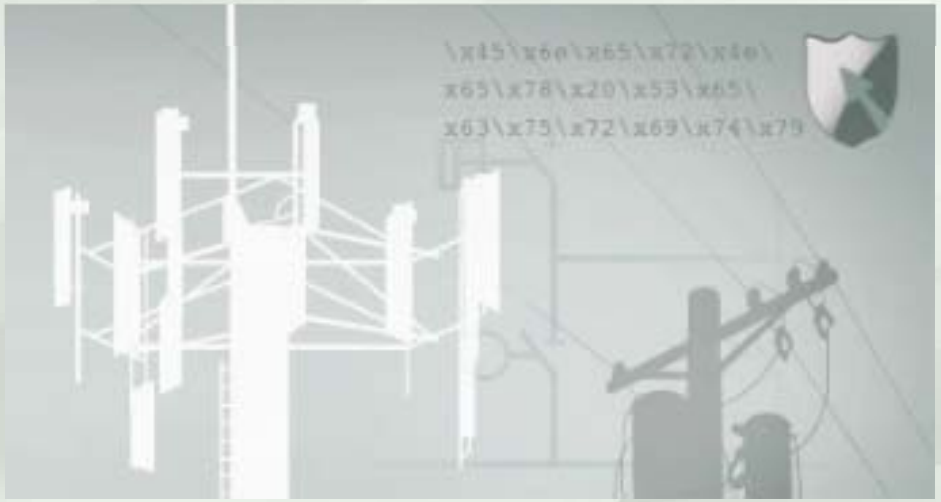
Executive Order 13636 - Improving Critical Infrastructure Cybersecurity

Work with owners and operators to improve cybersecurity, information sharing and collaboratively develop and implement risk-based standards.

The national and economic security of the U.S. depends on the reliable functioning of critical infrastructure during times of threat.

True Cyber Security

"Baked In From The Beginning"



Our Smart City Solution address the DoD Level Security Standards.

- Specifically built from the ground up to address "State Sponsored Cyber Assault Level Security"
- Compartmentalized Architecture to mitigate the threat of serious attack
- Maintains highest levels of security throughout the System Life Cycle
- Incorporates all key cyber security aspects into the wireless network to provide true End-to-End Security

The lighting infrastructure is already there and paid for.

Which means less money is spent deploying our extensive IT based wireless network.

Lighting is already all around us, we use Internet technology to make it do more than light the dark

Go Green LED Alternatives LLC

BOREALIS℠
Green Lighting for the Future

POLYBRITE INTERNATIONAL

Certified
WMBE Clearinghouse
Pursuant to CPUC General Order 156
Est. 1969
Women / Minority Business Enterprises

6621 St. Rte 71
Yorkville, IL 60506
630-551-1533
http://www.gogreenled.com
Sandra Goeken Miles
s.miles@gogreenled.com