

WELCOME



ALCATEL-LUCENT ECO-RESPONSABILITE : L'IMPACT ET L'EFFICACITE ENERGETIQUE DES RESEAUX DE TELECOM

Avril 2011



..... Alcatel•Lucent 

ALCATEL-LUCENT

VISION

TO REALIZE THE POTENTIAL OF A CONNECTED WORLD.

OUR MISSION

TO DELIVER THE INNOVATION OUR CUSTOMERS NEED TO STAY AHEAD, TO EVOLVE, TO BECOME MORE EFFICIENT, AND TO MOVE AT THE SPEED OF IDEAS.

CORPORATE SIGNATURE

AT THE SPEED OF IDEAS.

FAST FACTS

- Headquarters: Paris, France
- Annual Revenues: approx. €16 billion
- Employees: 77,000 +
- 130 countries
- R&D Budget: €2.5 billion
- Active Patents Held: 27,900
- Patents Awarded in 2010: 2,400
- Nobel Prizes Won: 7

OUR COMMITMENT TO SUSTAINABILITY

Why it matters?

Ben Verwaayen | "The world is having a lot of challenges at this moment. One of them, one of the most important one, is to transform our economies from physical economies to digital economies, to be inclusive for the rural world and to tackle climate change.
As an industry we can contribute. As a society we need to take advantage"



- Digital economies
- Rural inclusion
- Climate change

OUR COMMITMENT TO SUSTAINABILITY

Going Green: next revolution of 21st century?

ECONOMIC
DRIVER

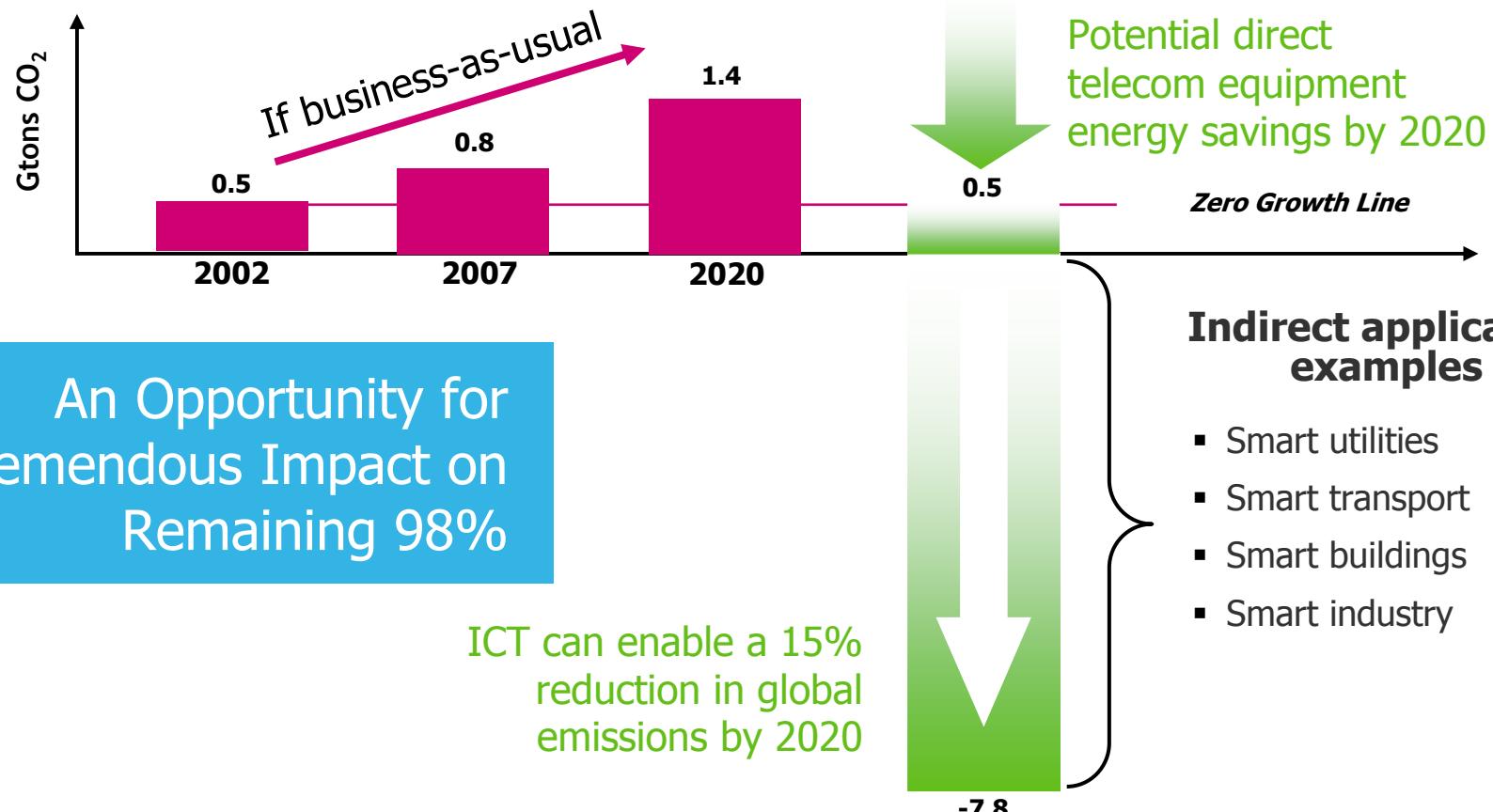
"How do we get Green out of the talking shop into reality? Remember the Internet in the 80's? When so many went into their garages and invented the world we are now used to? Well, Green can be the same motor for innovation. Again the sound of excitement out of the garages will inspire a new wave of economic growth."



CEO Alcatel-Lucent
At the World Economic Forum

ICT: AN OPPORTUNITY TO TACKLE CLIMATE CHANGE

ICT today: about 2% of global emissions



Source: GeSI – SMART 2020: Enabling the Low Carbon Economy in the Information Age

ALCATEL-LUCENT'S ECO-SUSTAINABLE APPROACH:

Fundamental elements

Transforming
communications
for a sustainable planet



- Developing Eco-Sustainable Networks
- Enabling Low Carbon Solutions
- Reducing Our Carbon Footprint

- Leveraging Bell Labs eco-innovation
Playing a pro-active role with key stakeholders

ENABLING A LOW CARBON ECONOMY

Innovative communications applications

Enabling
a low carbon economy



Energy (power utilities): smart grid & smart metering

Transportation and logistics: intelligent transport systems

Healthcare: remote patient care and monitoring

Smart communities: state and local authorities, public safety

MAJOR INITIATIVES: SMART GRID

For a more efficient management from the generation to the consumption

Electricity generation and distribution: 1/4 of total worldwide GHG emissions

Alcatel-Lucent enables utilities :

- to monitor **real-time** usage,
- to inform and influence consumers to be more **energy aware**
- to consume energy more **efficiently**



THE COMMUNICATIONS NETWORK
AT THE CORNERSTONE
OF MAKING THE GRID SMARTER

Alcatel-Lucent is already successfully delivering Smart Grid solutions



TRANSPower



ALTALINK



**Smart Grid | Enabling reduced environmental impact
through secure and reliable communications**

SMART GRID

External drivers as seen by the utility

POWER DELIVERY	<p>Non-stop energy delivery, despite...</p> <ul style="list-style-type: none">•Rising seasonal demand•Ageing infrastructure•Advent of volume electric vehicles
POWER QUALITY	<p>A legal requirement, despite...</p> <ul style="list-style-type: none">•Increasingly “noisy” loads•Growth in small scale renewables
OPERATIONAL EFFICIENCY	<ul style="list-style-type: none">• Better cost control, requiring...• Maintained safety standards• Improved operational processes• Better asset utilisation
GREEN ENERGY	<p>Pressure on CO2 footprint</p> <ul style="list-style-type: none">•Growth in small scale renewables•Management of energy losses
CUSTOMER INTIMACY	<p>Creating value for customers</p> <ul style="list-style-type: none">•Provide real time usage information•Enable greater customer choice and control

SMART GRID

Alcatel-Lucent's Value Proposition

More than 20 years' experience as a provider of mission-critical communications to the energy industry

- Advising and architecting **best practice** networks
- Solution design, equipment supply, **turnkey delivery**, managed operations



Delivery of a variety of communications projects supporting critical operations

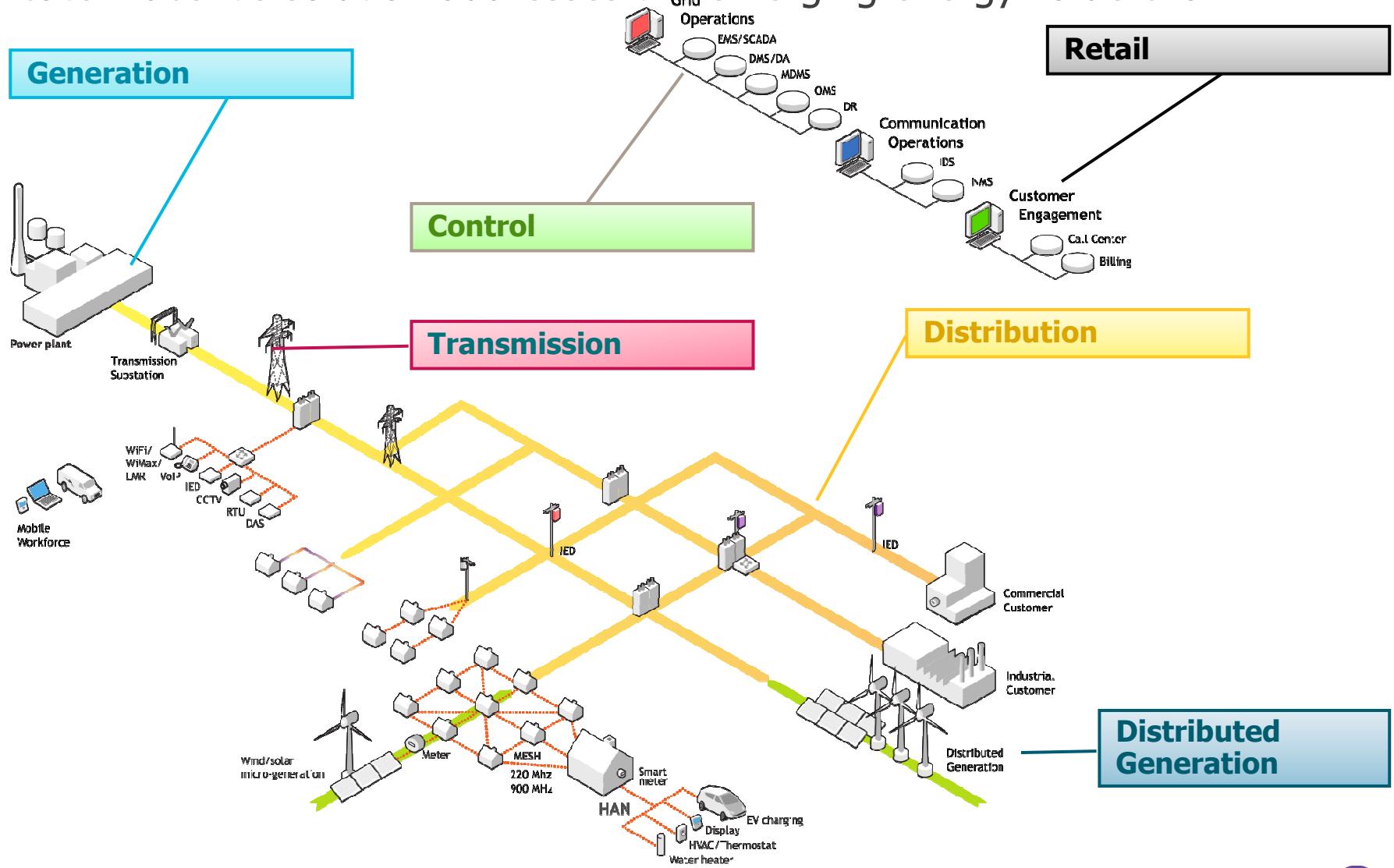
- Management of **safety and reliability** on electricity transmission grids
- **Reliable and efficient** operations of electricity distribution networks
- Smart metering and smart grid **technologies for the future**



Smart Grid | An experience that has allowed us to lead in smart grid development

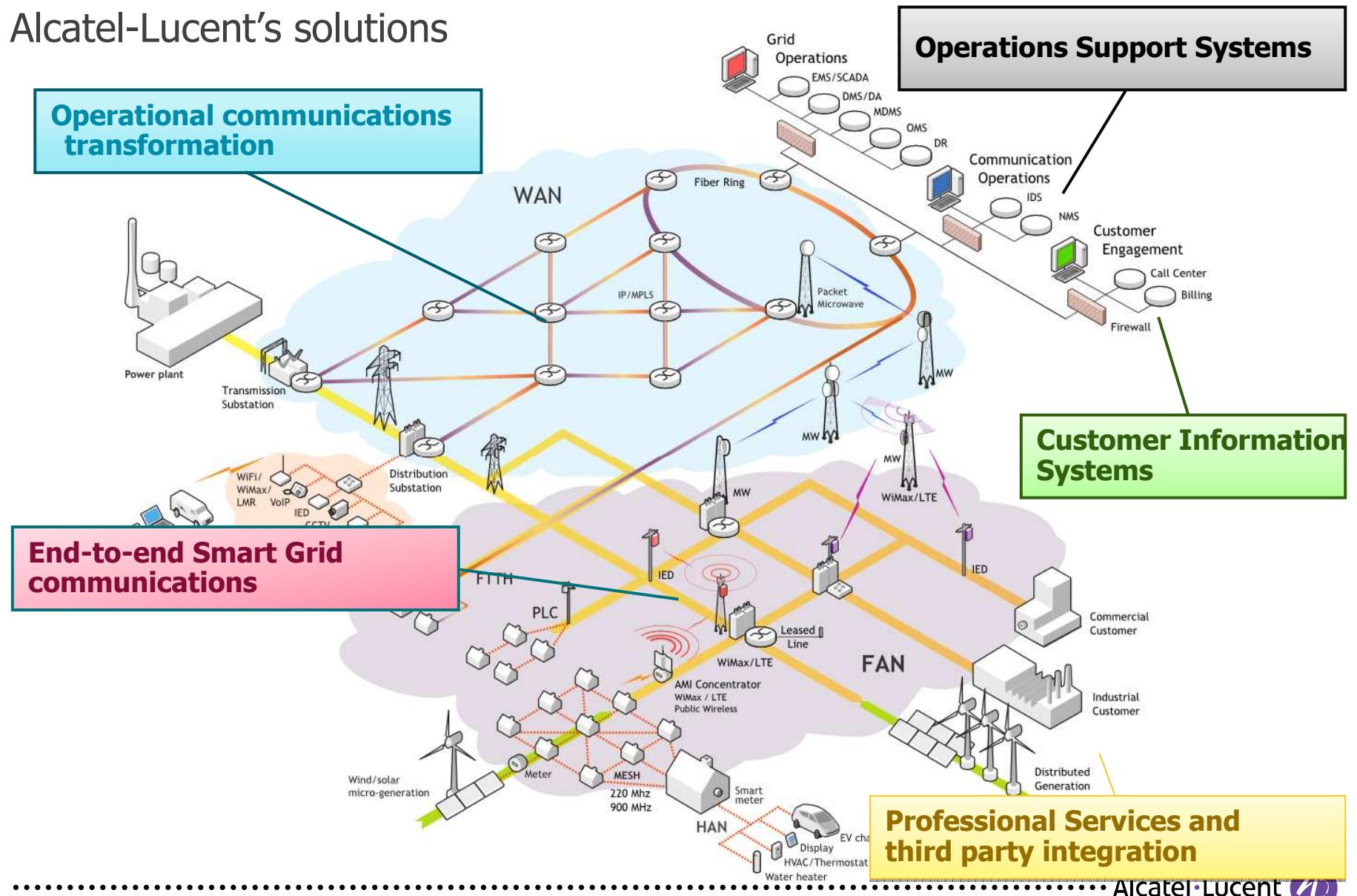
SMART GRID

Alcatel-Lucent's solution addresses the emerging energy value chain



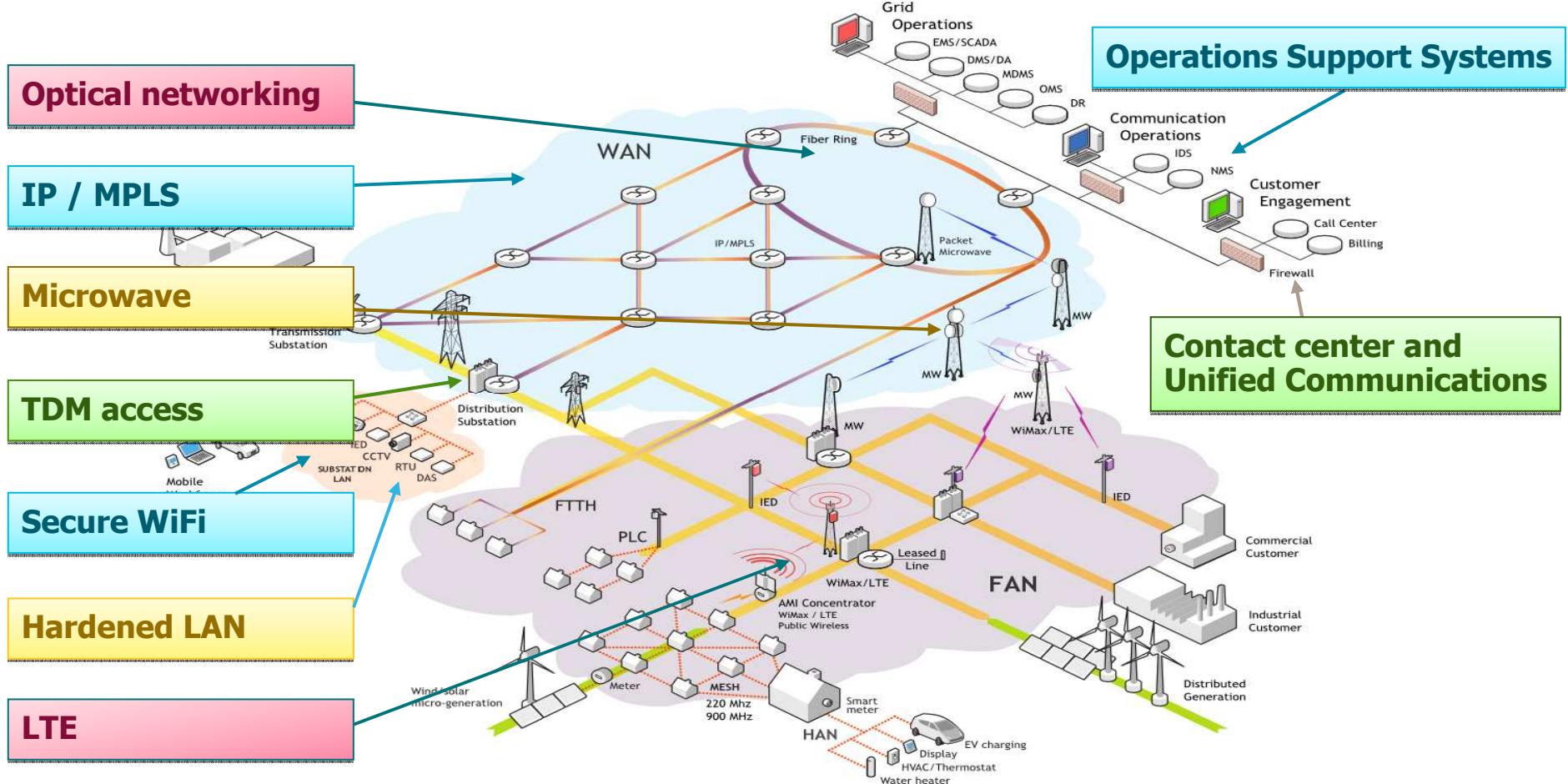
SMART GRID

Alcatel-Lucent's solutions



SMART GRID

Alcatel-Lucent's product families in utility networks



IP / MPLS Transformation – Design, Build, Certify

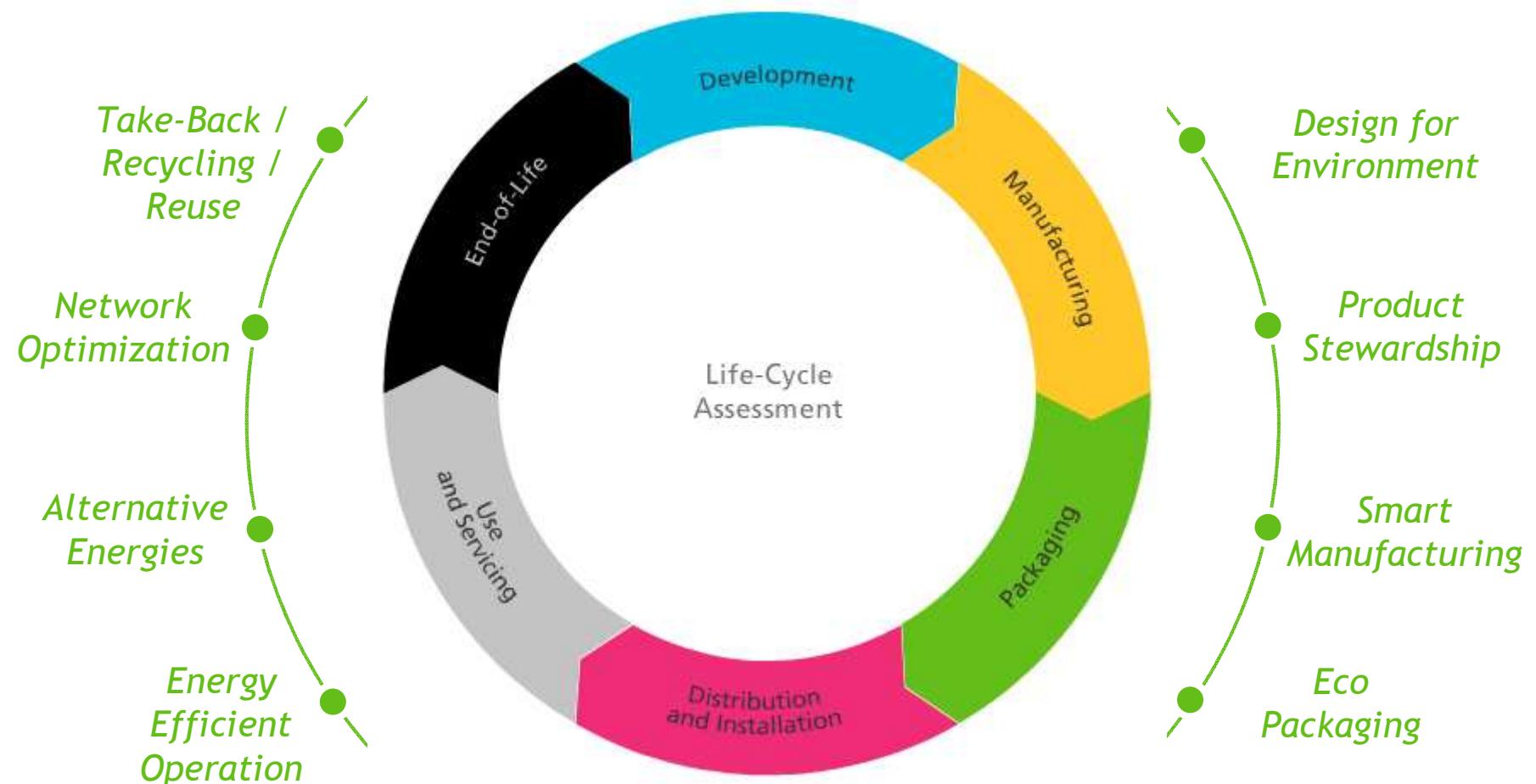
Customized Solutions - Multi-Vendor Integration

Operations Transformation – Managed Services



DEVELOPING ECO-SUSTAINABLE NETWORKS

Holistic lifecycle approach delivers eco-sustainable networks

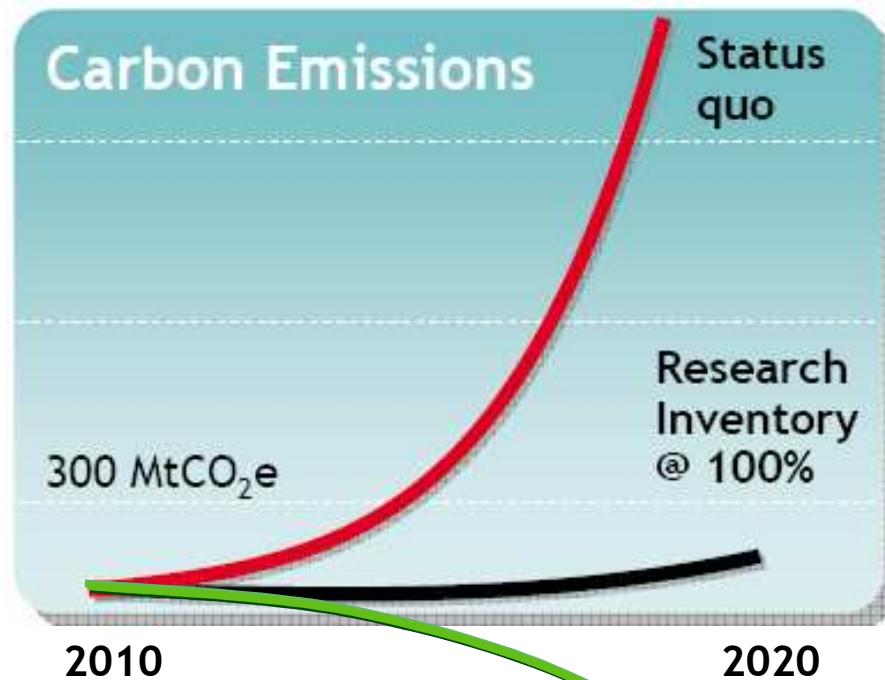


Functional use represents 80%-90% of eco impact

WHERE WE ARE

Doing nothing is not an option

Global Users
Information
Vidéo
Wireless
HD ... 3D ...



Sustainable Networking

MAJOR INITIATIVES: GreenTouch™

We're moving towards Energy Efficient Networks

Bell Labs-initiated GreenTouch™:

- **Growth:** Focus on sustainability and growth
- **Holistic and ambitious:** Goal of 1000x

1 year after the launch of the consortium:

- Doubling membership and attracting the participation of **leading scientists** from across the industry and around the world
- Establishing **25 research working groups** focused on several key technology areas
- Earning awards from Global Telecoms Business and recognition from the **World Economic Forum**
- Unveiling the "**Large Scale Antenna System**" mobile network concept to realizing 1,000X network energy efficiency vision



GreenTouch™ | Demonstrate technologies in five years that lead to a 1000-fold improvement in energy efficiency

MAJOR INITIATIVES: lightRadio™

Alcatel-Lucent maps the future of mobile technology

LIGHTRADIO

- Improves the **environment**: reduces energy consumption of mobile networks by up to 50%
- Addresses global **digital divide**: easy creation of broadband coverage virtually anywhere there is power (electricity, sun, wind)
- Offers major **savings for operators**: potential reduction of total cost of ownership (TCO) of mobile networks up to 50%



"lightRadio is a smart solution to a tough set of problems: high energy costs, the explosion of video on mobile, and connecting the unconnected."

Ben Verwaayen, CEO of Alcatel-Lucent

"lightRadio™ is a revolutionary, multi-technology product family that completely changes the face of the radio access network (RAN)

MAJOR INITIATIVES: ALTERNATIVE ENERGY

Developing eco-sustainable networks



Alcatel-Lucent Alternative Energy Program |
1st truly industrial solution
More than 400 alternative energy-powered wireless base
stations have been deployed to date

MAJOR INITIATIVES: CARBON FOOTPRINT

Our commitment



Commitment | Alcatel-Lucent committed to a
50% reduction of its carbon footprint by 2020

AT
THE
SPEED
OF
IDEAS

..... Alcatel-Lucent 

www.alcatel-lucent.com/eco