





GTDC

GERAÇÃO, TRANSMISSÃO, DISTRIBUIÇÃO
E COMERCIALIZAÇÃO DE ENERGIA



Megatrends are provoking a rise in Energy Demand



URBANIZATION

+2.5B

people in cities by
2050

Source: United Nations, DESA



DIGITIZATION

30B

connected things
by 2020

Source: Cisco



INDUSTRIALIZATION

+50%

Energy consumption
by 2050

Source: IEA

Life Is On

Schneider
Electric



We have an opportunity to co-create the future

**More
ELECTRIC**

**More
DIGITIZED**

**More
DECARBONIZED**

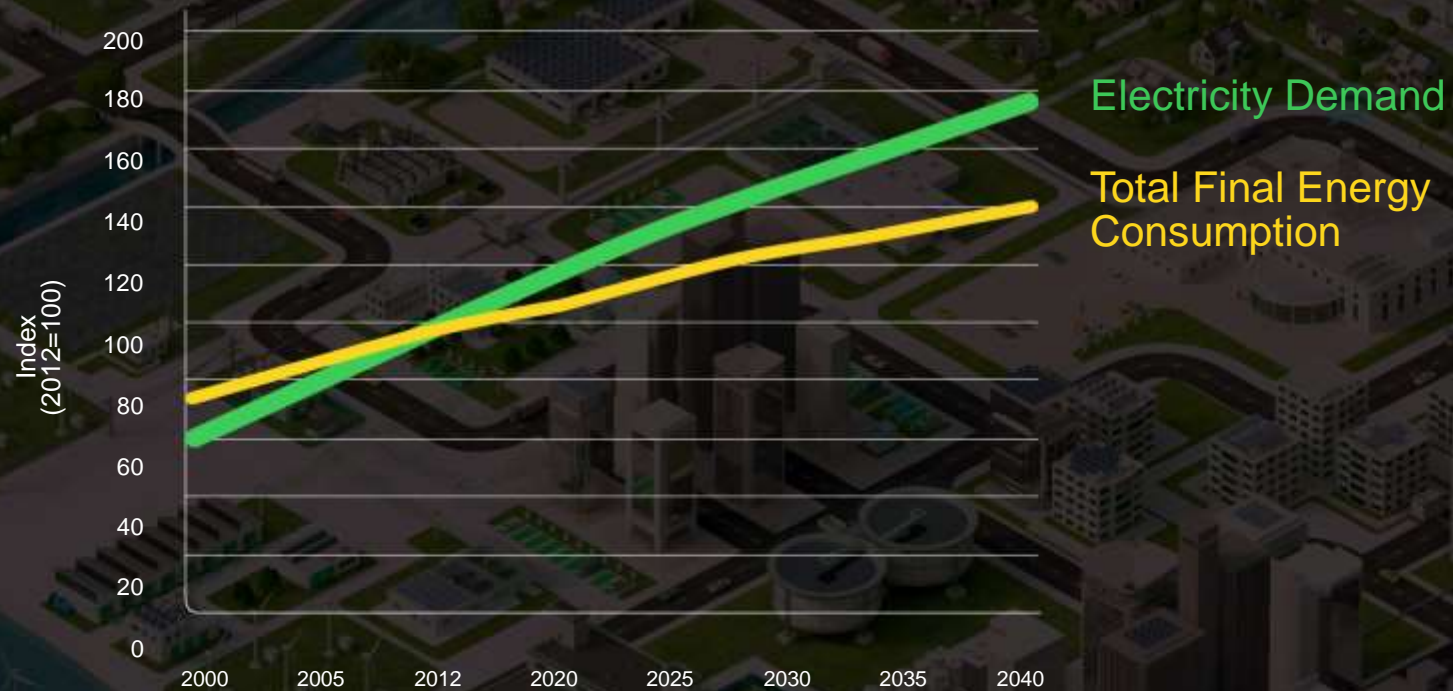
**More
DECENTRALIZED**

MORE ELECTRIC

Global energy consumption will increase by **40%** in the next 25 years



...and electricity consumption will increase by **80%**



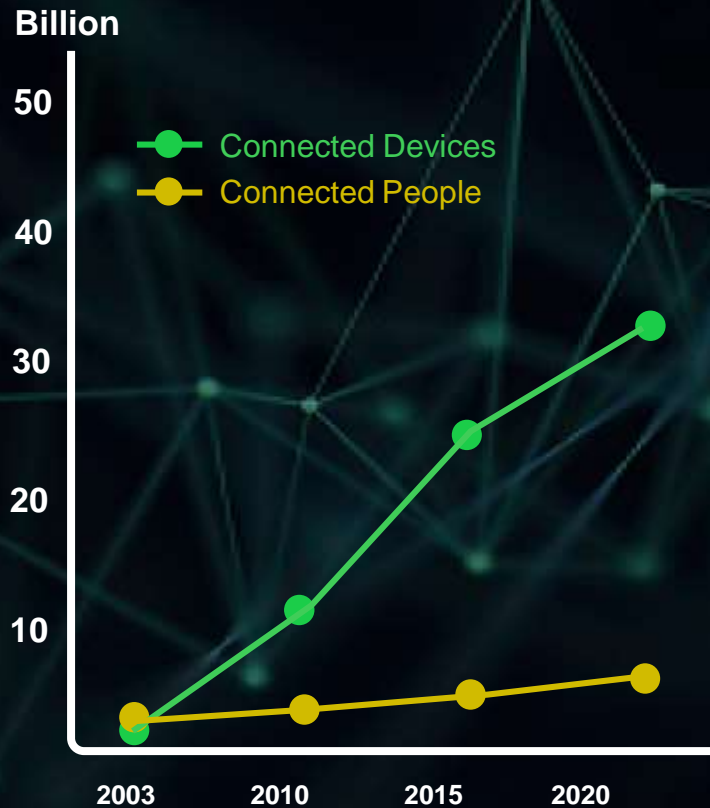
Source : IEA, WEO 2014, New Policies Scenario

MORE DIGITIZED and MORE DECARBONIZED

Connected from Plant to Plug with demand side active energy and grid efficiency



Making Demand CONNECTED and EFFICIENT



INTERNET OF THINGS

Source : Cisco, Internet World Statistics

Making Demand CONNECTED and EFFICIENT

IoT

ACCELERATION

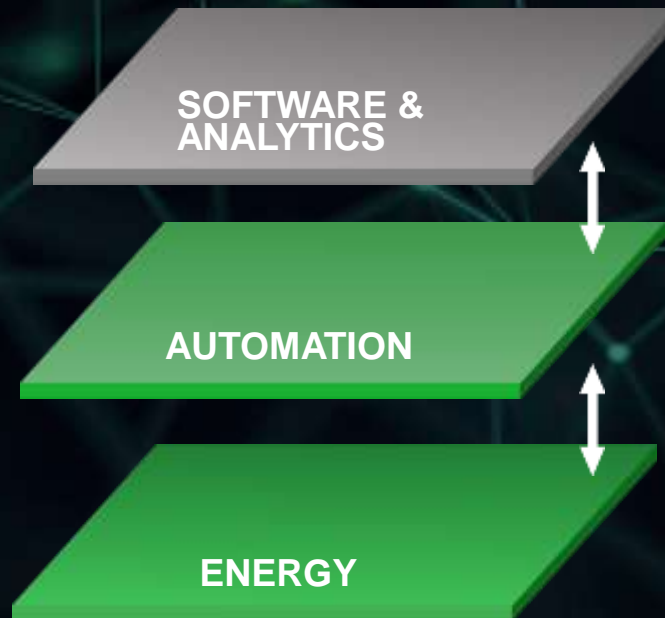
Driven by pervasive penetration of
MOBILITY & ANALYTICS

Making Demand CONNECTED and EFFICIENT

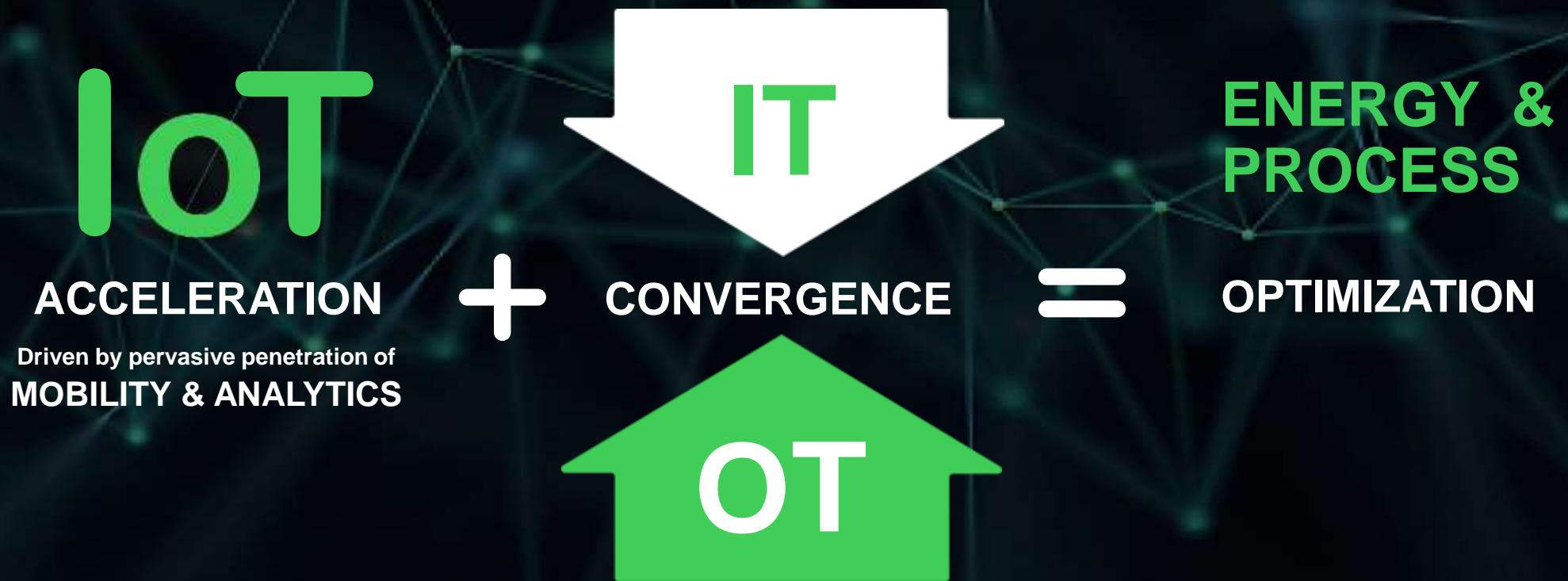
IoT

ACCELERATION

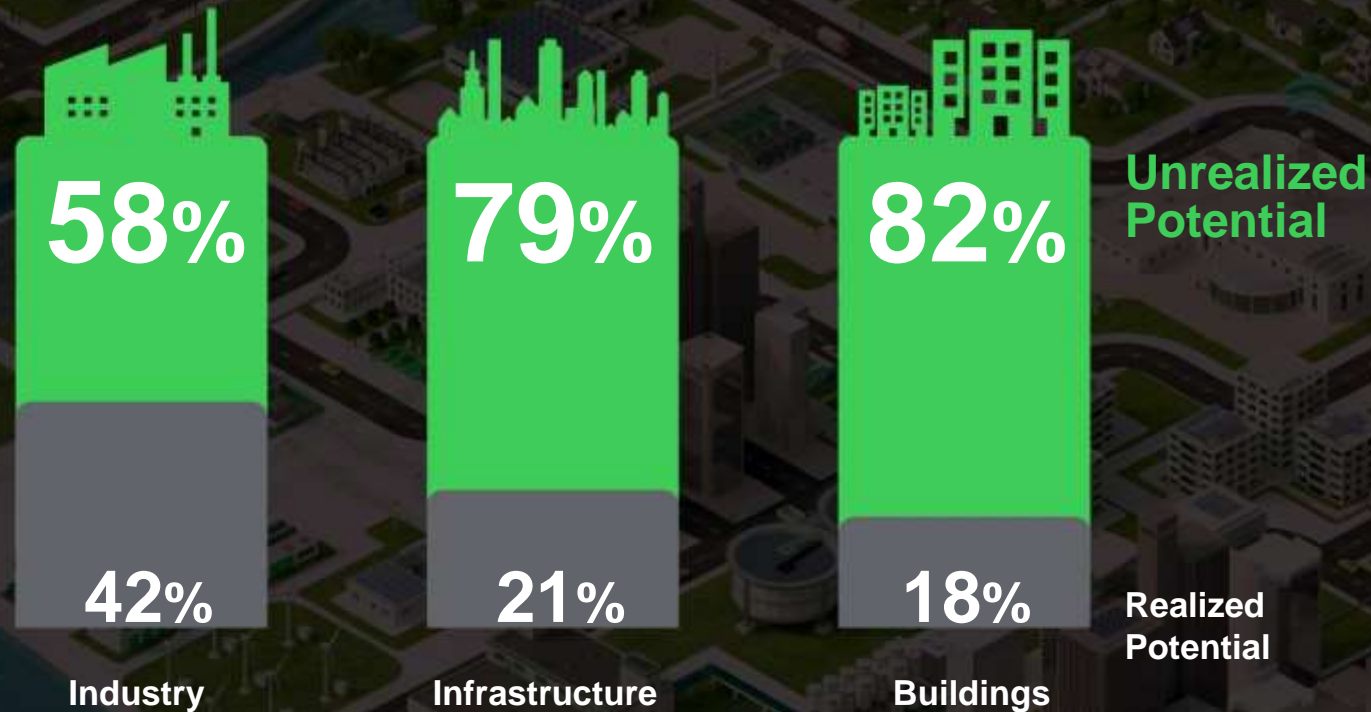
Driven by pervasive penetration of
MOBILITY & ANALYTICS



Making Demand CONNECTED and EFFICIENT



We have massive untapped efficiency potential



Source : World Energy Outlook 2012, OECD / IEA, Internal analysis

Life Is On

Schneider
Electric

MORE DECENTRALIZED

Integrating intermittent generation & leveraging microgrid flexibility

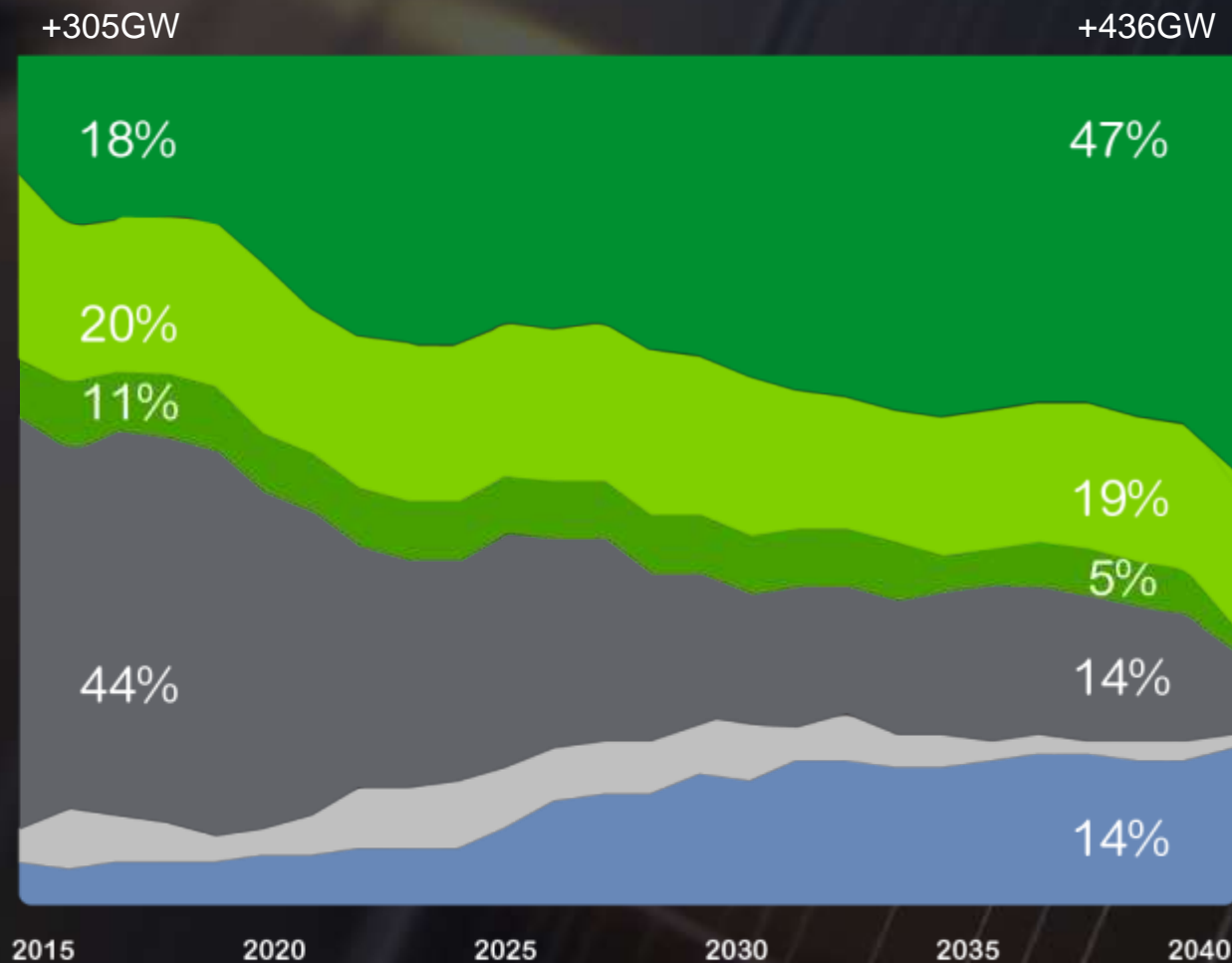


Declining cost of Renewables and Storage

—●— Li-Ion Battery Costs (\$/kWh)
—●— Solar PV LCOE (\$/MWh)



Source: Lazard 2014, BNEF 2014



Renewables
Account for
~70%
of new capacity
additions by
2040



*Power storage, Demand response and other potential sources

Source: BNEF

Investment to Innovation

~5%

of sales devoted to R&D

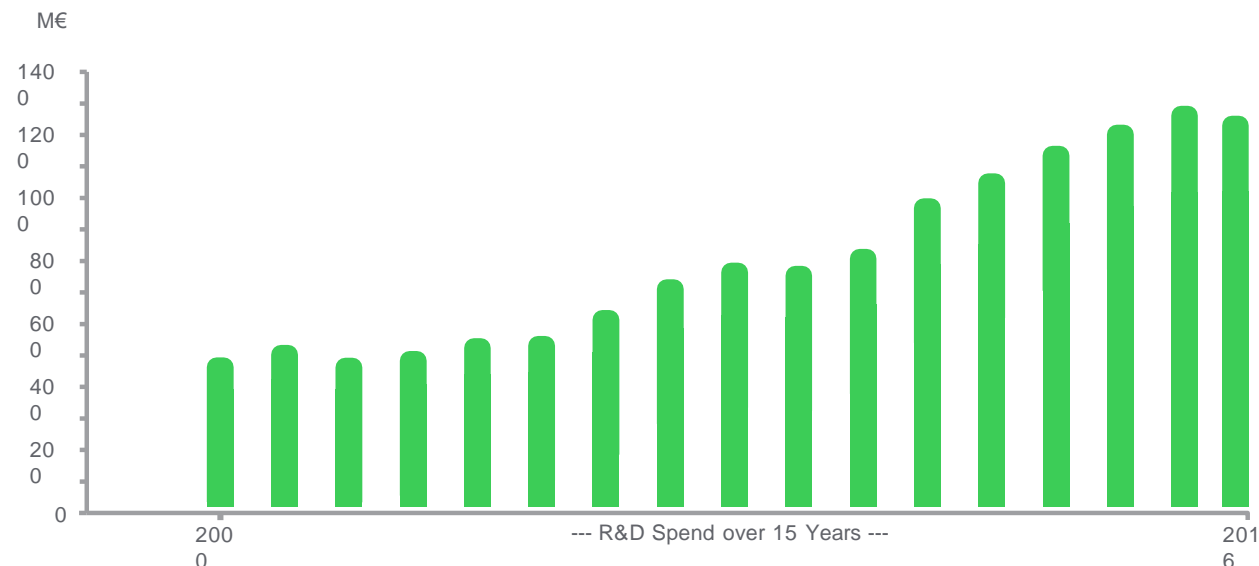
20,000

Patents active or
in application worldwide

20,000+

R&D & Solution Engineers

- 10,000+ Solution Engineers
- ~5,000 Software Engineers



...working with a strong ecosystem of partners

Partnering with 50+

Best-in-class
Public & Private Organisations



and start-ups



Leading Global Projects

for Intelligent Buildings,
Renewables, Homes,
Smart Electricity, Green Grid
& Data Centers

Supporting Interoperability

Standards &
Protocols



Funding start-ups

Aster Capital Fund

Demand response,
software breakthrough

Schneider Electric

A Pioneer in Industrial Internet of Things

The first of a series of patents for
Web servers in automation devices



1996

Computerworld Smithsonian
award winner

COMPUTERWORLD

1999

Convergence of MB/TCP & Ethernet/IP



2010

1997

**Transparent
Factory**

Introduction of Modbus/TCP and
'Transparent Factory' for Automation

2004



MB/TCP submitted to IEC
for standardization

...that continues with leading edge technologies today



Modicon 580 ePAC

the award-winning IIoT-ready controller with embedded Ethernet backplane & cyber security



Altivar Process

built-in optimization algorithms and dynamic QR codes for improved asset performance

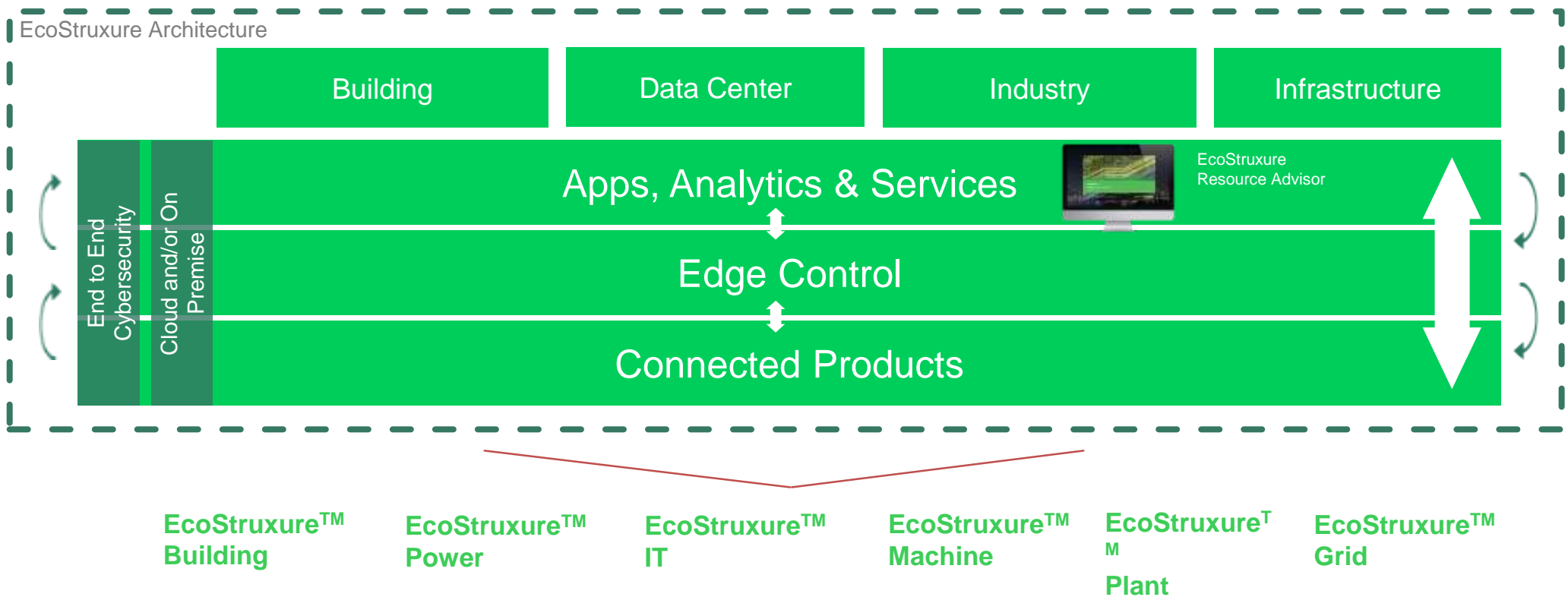
● 2016



Eurotherm Online Services

anywhere anytime web access to vital plant information, and calibration certificates stored in a secured cloud platform

EcoStruxure™
Innovation At Every Level



Inovações que já penetraram o mercado brasileiro:

- Telemetria de consumo de energia existe desde a década 2000.
- Geração distribuída através de biomassa tem décadas de experiência no mercado.

Inovações que já estão penetrando o mercado brasileiro:

- Geração solar distribuída.
- Melhores Softwares & Analytics para tomada de decisão.
- iluminação LED.

Inovações que ainda não está penetrando o mercado brasileiro:

- Sinal de preço em tempo real: discreto → contínuo.
- Transformação do modelo de negócio (modalidade de transações em Peer To Peer e sem autoridade central).
- Blockchain.
- Resposta de demanda (demand response).
- Sistemas inteligentes de armazenamento.