Energy Efficiency Solutions

20th May 2015

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Schneider Electric Romania

We are the Global Specialist in Energy Management™

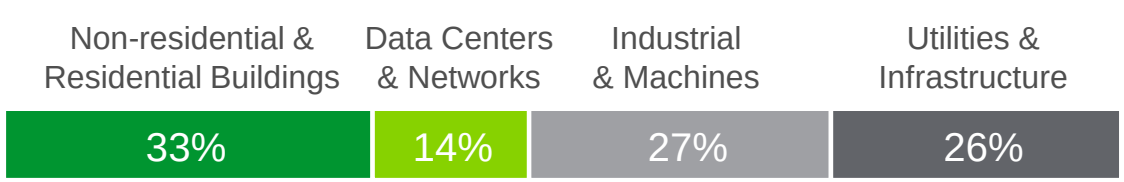
Schneider Electric, the global specialist in energy management and automation

€25 billion
FY 2014 revenues

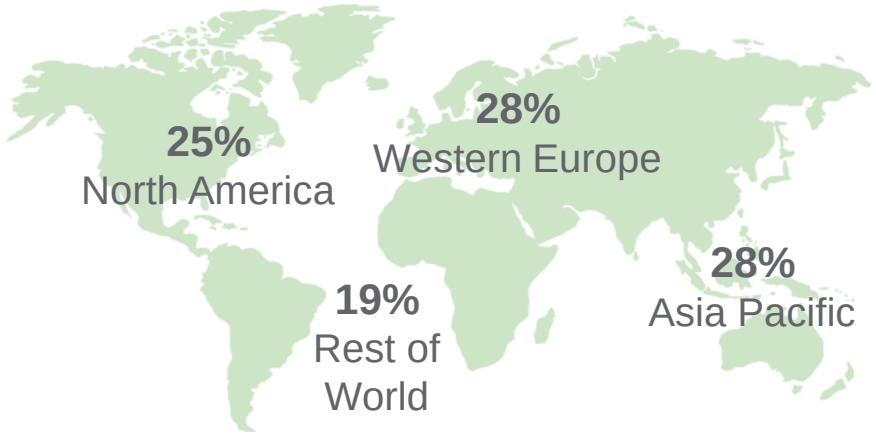
~5%
of revenues devoted to R&D

~170,000
people in 100+ countries

Diversified end markets – FY 2014 revenues[1]



Balanced geographies – FY 2014 revenues

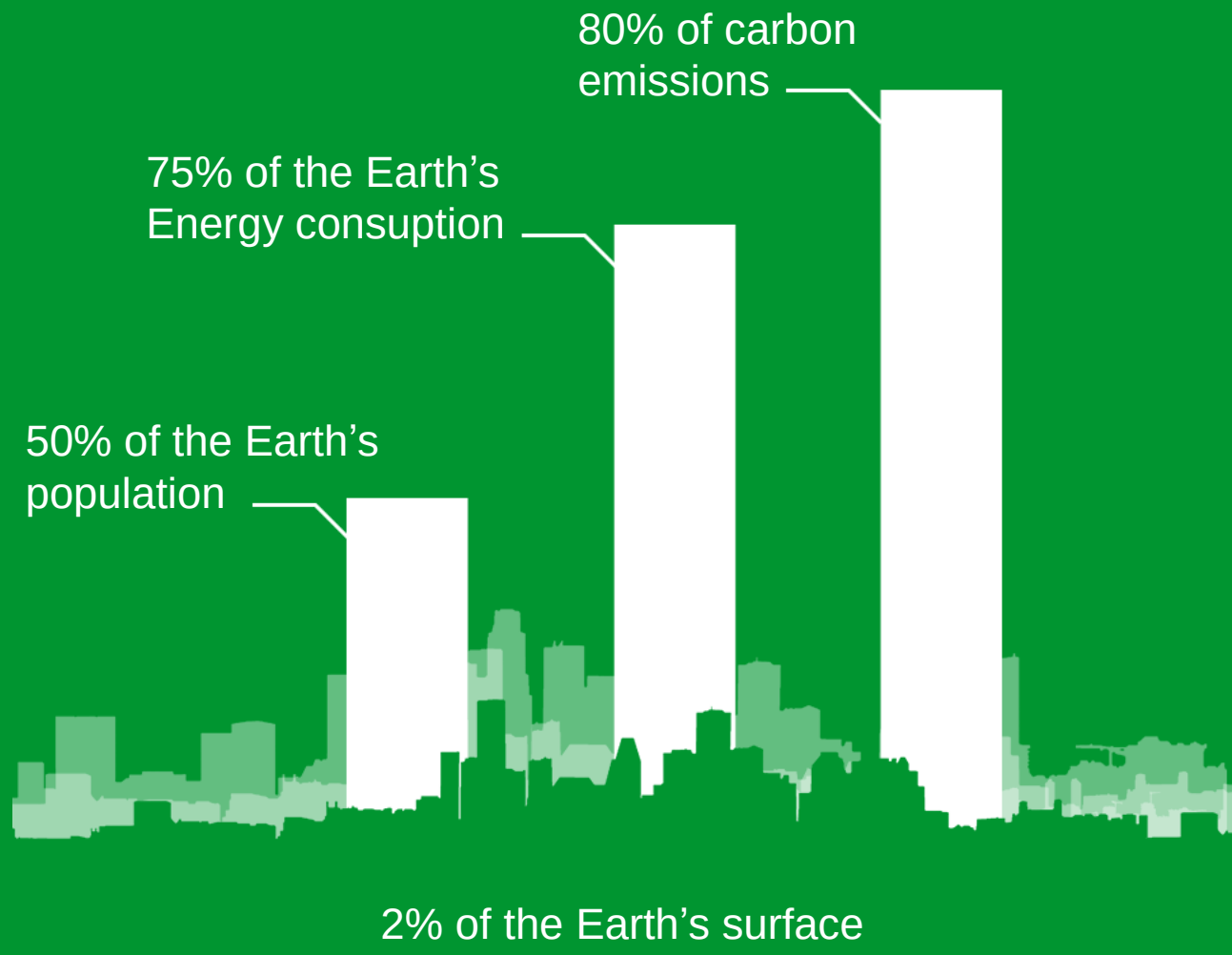


1 Estimated at the end of 2014

The world is getting smarter.

The advancement of communication technology enables a smarter city grid for our future.

Our cities are growing.



The rise of emerging economies is prompting a worldwide shift in energy consumption.

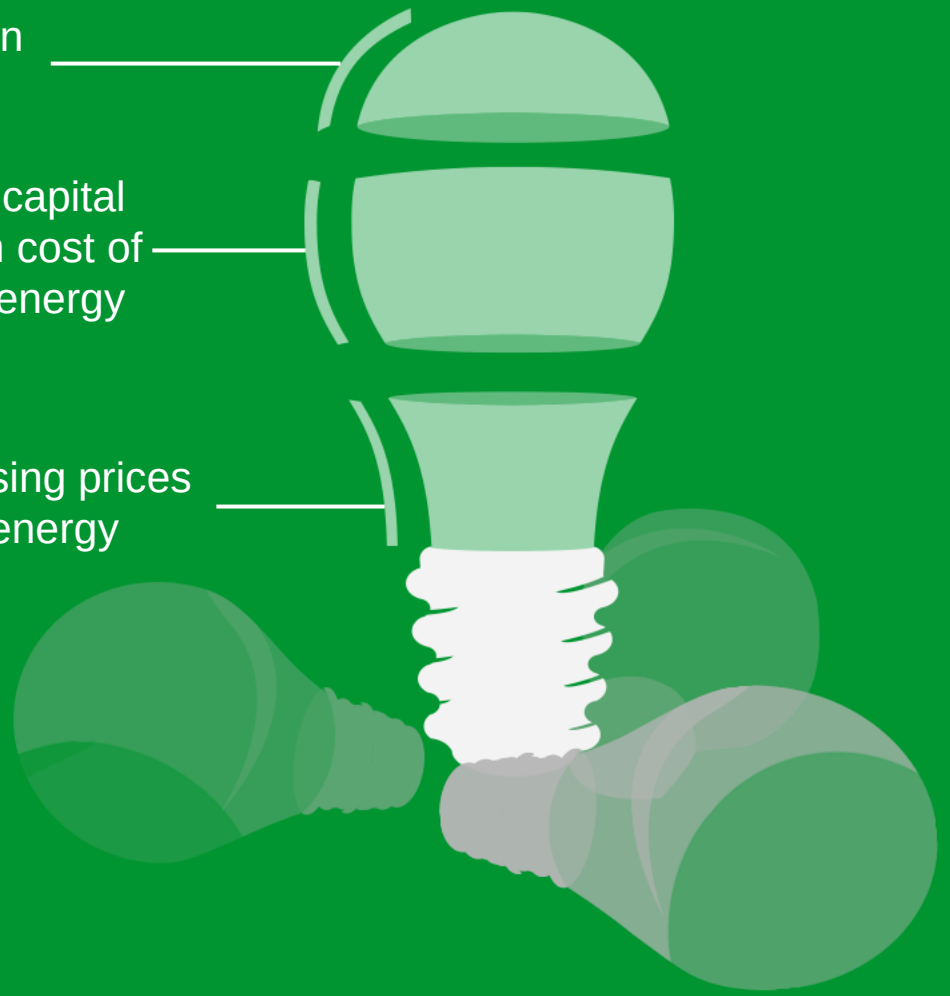
In 2000, new economies accounted for 5% of the global IPO (Initial Public Offering) and grew to 60% in 2010.
(1100% increase)

They account for 50% of the global GDP growing to 65% by 2015.

Schneider Electric

The world will spend more money on energy in the next 40 years than it has in the previous 400.

The growing cost of energy



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The Energy Efficiency is about achieving more while using less of our common planet.

By utilising smart solutions, we create a more sustainable world.

The Energy Efficiency is dominated by:
negawatts, not megawatts,
Opex optimisation and low Capex investment.

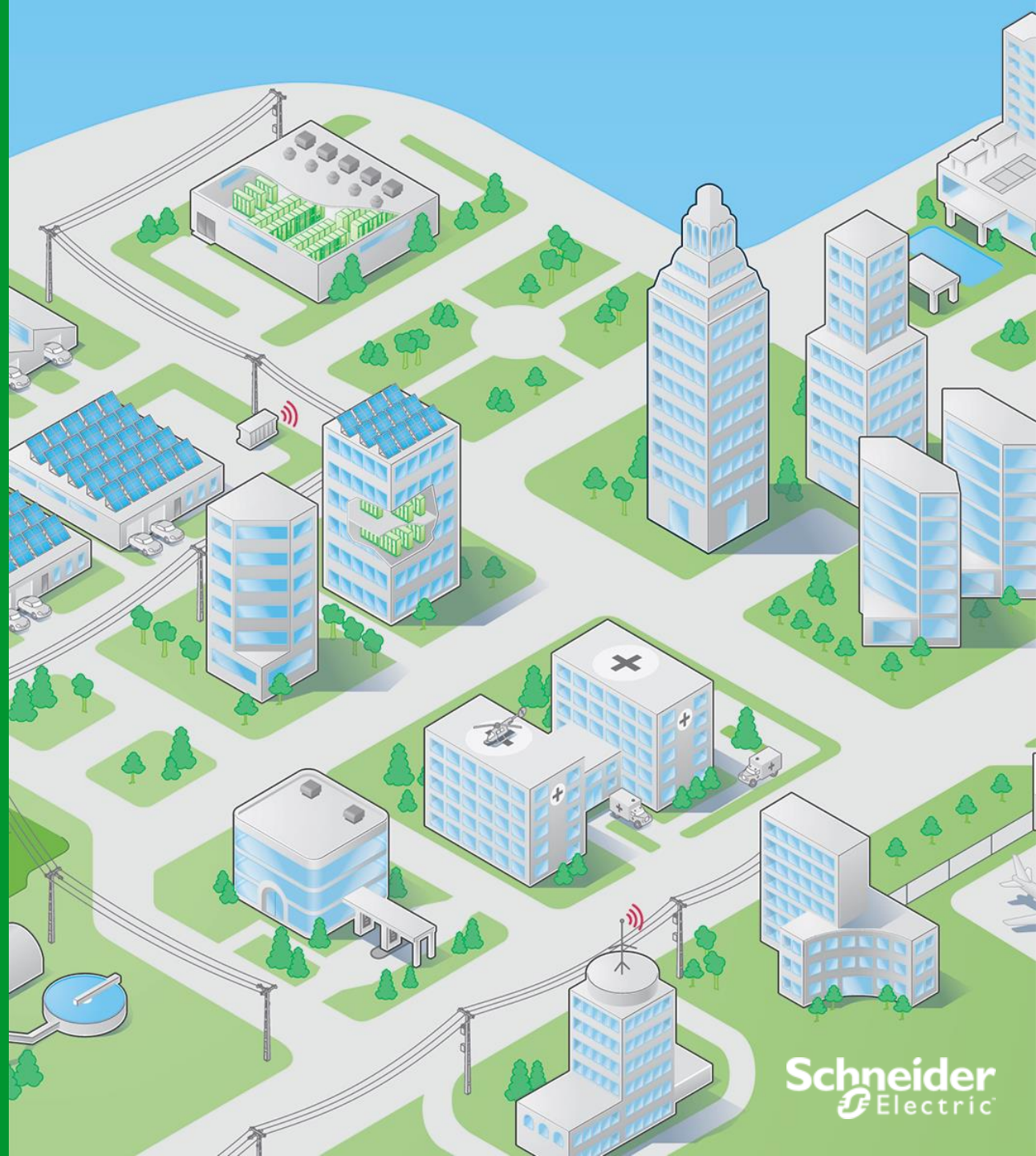
Schneider Electric

As The Global Specialist in Energy Management™,
Schneider Electric makes Energy Efficiency a reality, today.

Schneider Electric™

We believe it’s time to integrate.

All energy systems become a fully connected smart city grid operating in a cohesive, multi-modal system.



From smart devices through to big data, we provide our customers with services, systems and technology to:

Reduce energy consumed

Reduce cost per kWh

Reduce CO_2 footprints

Reduce operating expenditures

Realise measurable efficiency

Produce energy locally across the grid

Schneider Electric

How do we deliver on this promise?

We are:

Global

Innovative

A Solution Provider

Green

Reliable

But it’s our people and our culture that make the difference.

We are:

Human

Always Challenging

Collaborative

Agile

Our unique understanding of efficiency will help you make the most of your energy.

https://www.youtube.com/watch?v=LEj8UPxsWGI

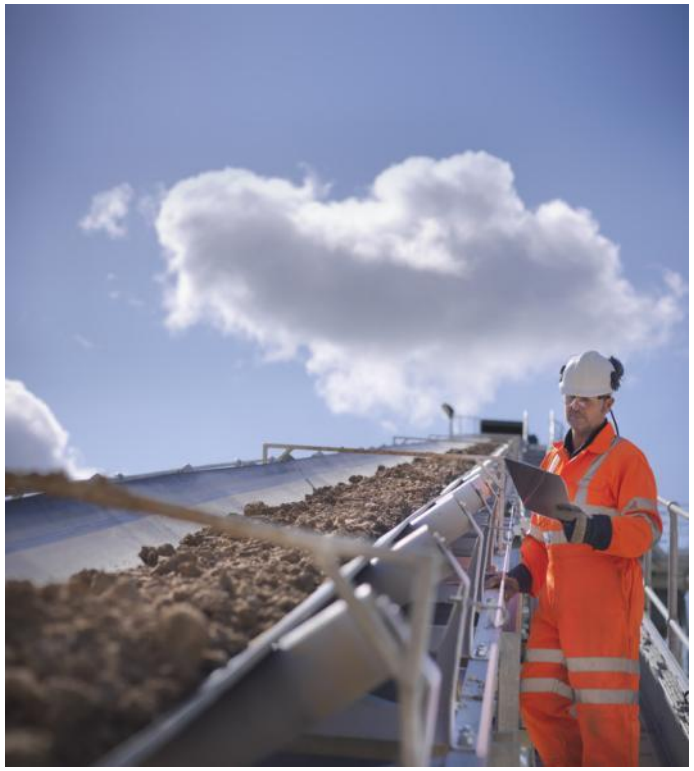
Global leadership in four businesses

	Buildings	Infrastructure	Industry	IT
Key technology	**Low Voltage & Building Automation**	**Medium Voltage Grid Automation**	**Discrete & Process Automation**	**Critical Power & Cooling**
FY 2014 revenue[s]	43%	21%	22%	14%
Worldwide position	**#1**	**#1**	**#2 - Discrete #4 - Process**	**#1**
Worldwide competitors	ABB Eaton Legrand Siemens	ABB Siemens	ABB Emerson Rockwell Siemens	Eaton Emerson

Our technologies and solutions address three long term trends

Urbanization

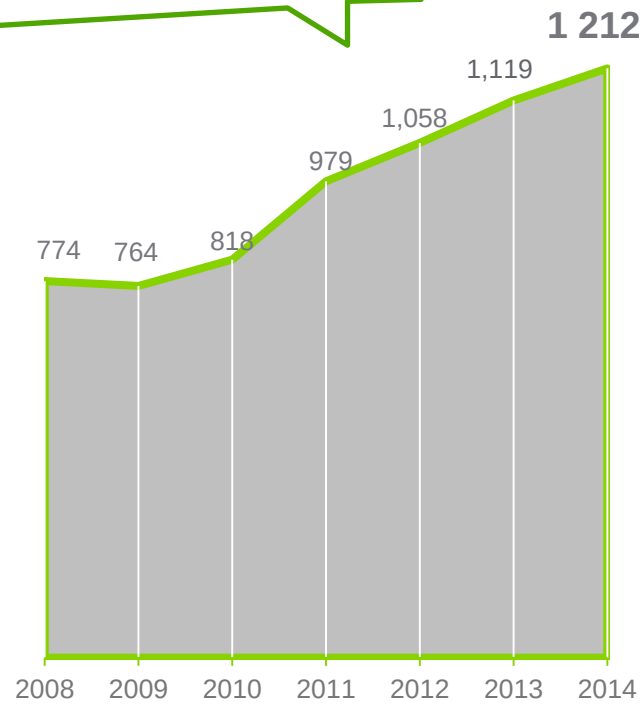
Industrialization



Digitization

A strong and sustained committment to innovation

~5%
of revenues dedicated to R&D



Evolution of R&D spend

> Connected offers

> Software

> Energy efficiency

Controller

Speed drive

Sustainable development, an integrated part of our strategy

Our longstanding commitments

> **Energy efficiency**

> **Access to energy**

> **Ethics, responsibility and environmental protection**

Villaya street lighting for off-grid areas

A recognized performance

Global 100
Most sustainable corporations
Schneider Electric ranked 9th (2015)

Ethisphere
World's most ethical companies
For the 5th consecutive year

The Planet & Society barometer

> **Communicated on a quarterly basis**
> **Audited annually by a third party**
> **Integrated in the performance criteria of 3000+ managers**

Year-end target exceeded in Q1 2014

9.52/10
Q4 2014

Our offers and solutions

> Power and energy monitoring.

> Power factor correction.

> Building and home automation.

> Network connectivity solutions.

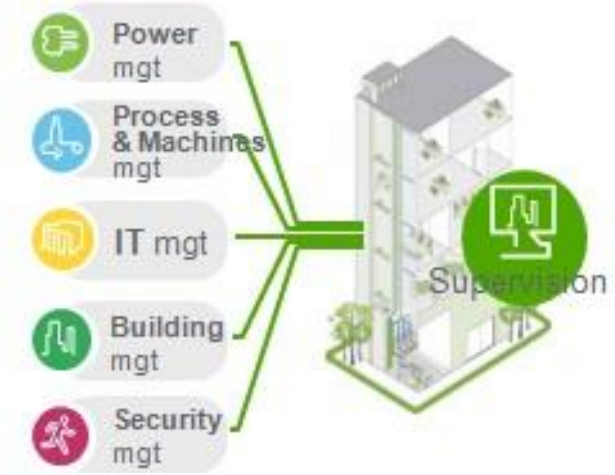
> Smart Panel Solution

> Speed drives for LV and MT

> Electrical vehicle solutions

> Solar inverters.

EcoStruxure™ is



- an integrated architecture that combines products, equipments, softwares and services from our five key domains of expertise to provide 24/7 control and supervision at site or enterprise-level.

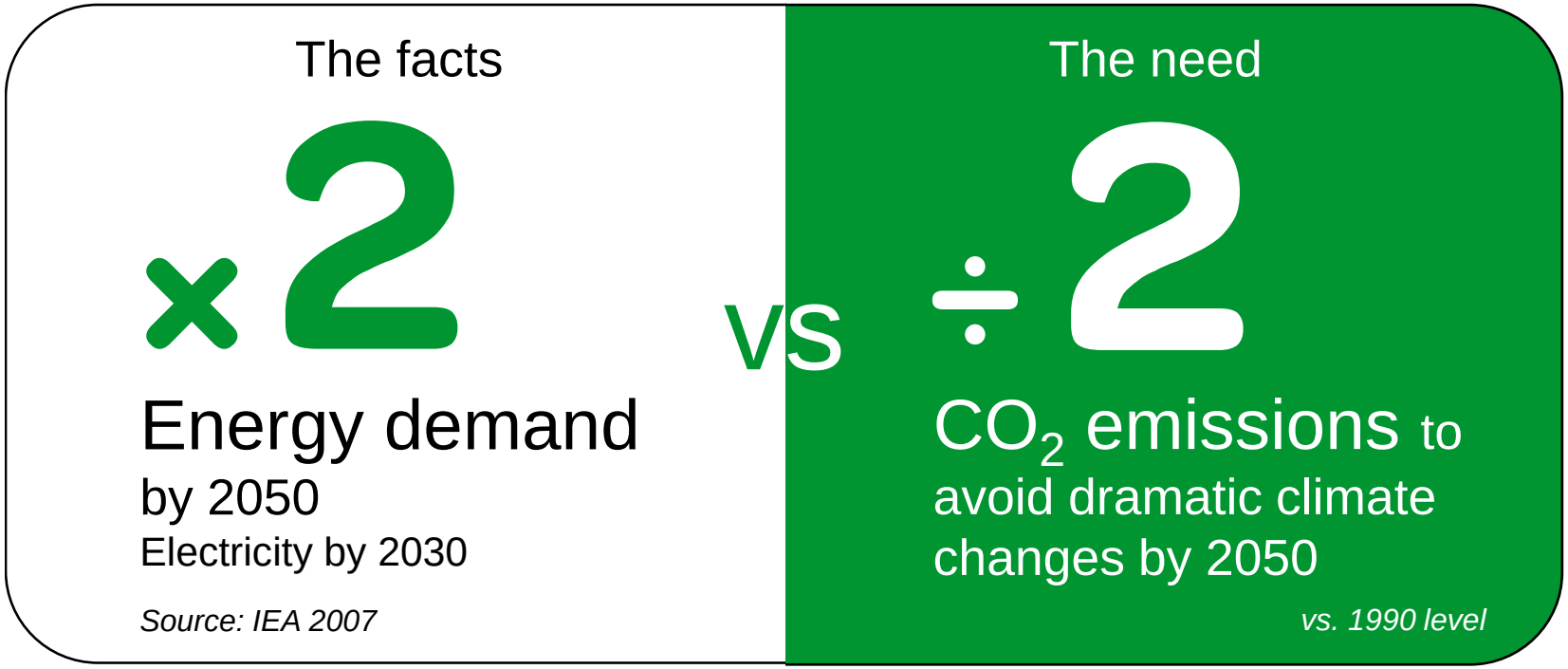
- In other words, EcoStruxure is also:
  - an integrated architecture (not a product and not a software)

Our StruxureWare software suites provides the following applications for Industry, Grid, DataCenters & Buildings strategic markets:

Sustainability **Energy** **Operation** **Asset** **Control & Monitoring** **Security**

Energy Efficiency Overview

The Energy challenge



With **Energy-Efficiency** and **Renewables**,
we are **uniquely positioned** to help address this challenge

https://www.youtube.com/watch?v=ANSfG2KRLd8

What drives & boosts Energy Efficiency?

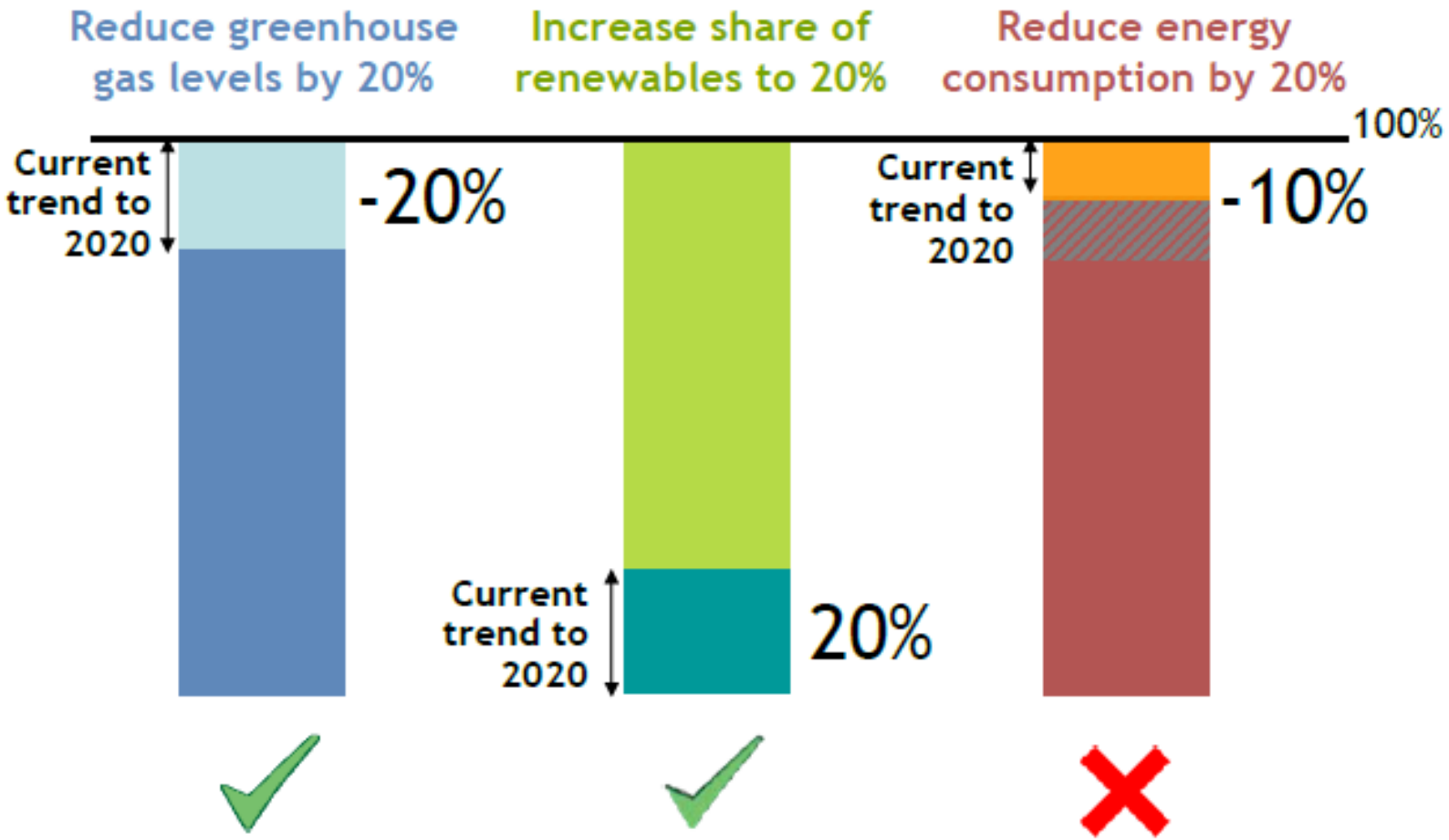
- Regulations
  - EE is needed by governments to meet their **CO2 abatement pledges**
    > sector-specific regulations, esp. in Buildings, Transportation & Industry

- EE's economic rationale: great return on investment!
  - for **electro-intensive industries** facing mounting energy costs
    (data centers, oil&gas, mining&metals, water&waste water etc.)
  - for **governments** facing growing energy security issues (demand vs generation, energy mix issues, import-related strategic risks)
  - for **companies** facing tighter requirements for lower Carbon footprint

- and Technology!
  - **easy-to-implement, easy-to-use solutions** make EE easier to sell
  - less energy-intensive industries and less-regulated sectors such as Residential are **additional potential customers**

Regulations – Europe

The 20/20/20 by 2020 plan



Global standard – ISO 50001

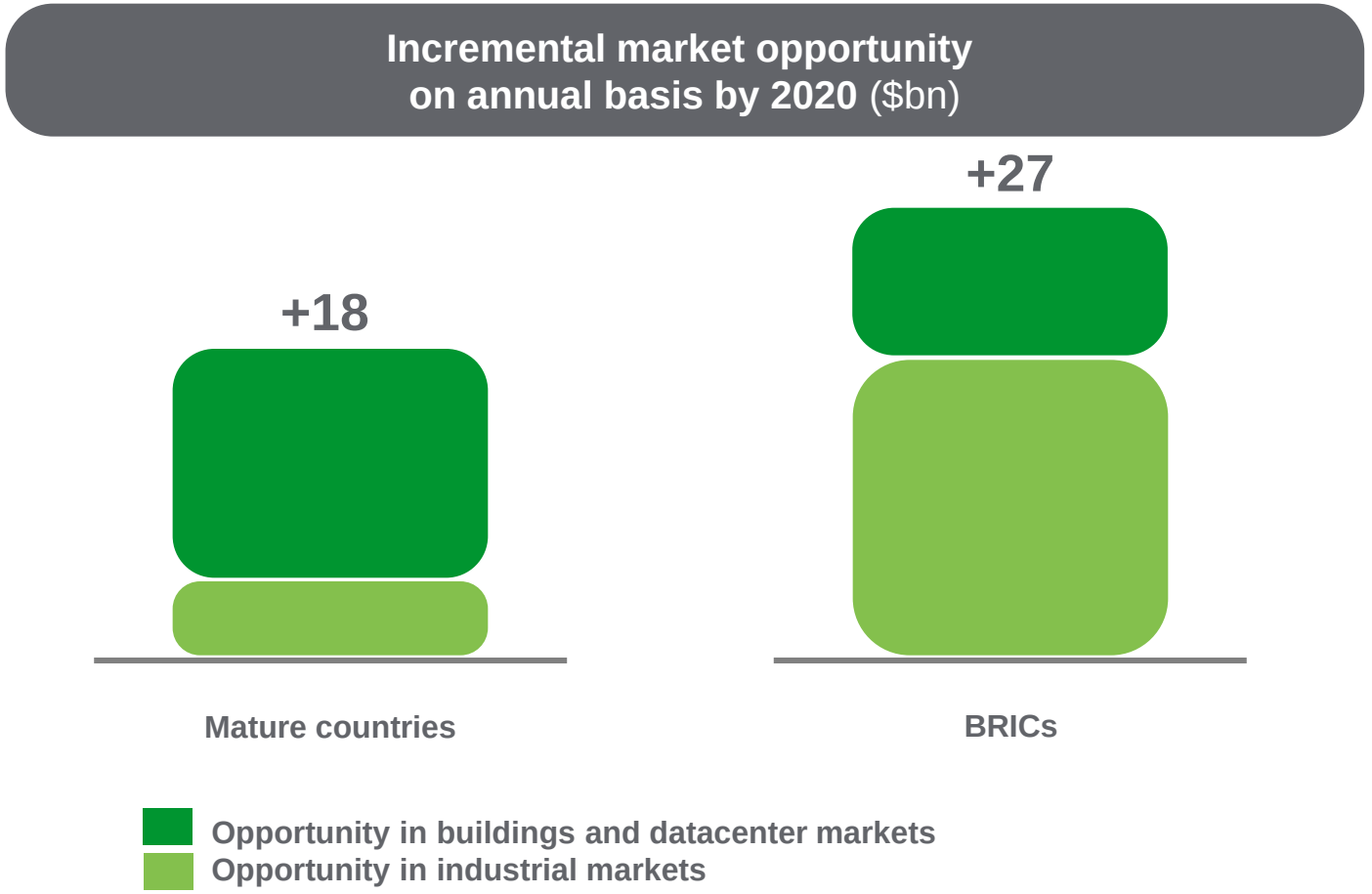
- The ISO 50001 international standard on Energy Management will cover organization processes to improve Energy performance, esp. Energy Efficiency (EE)

- Includes quantitative items to make energy use visible and controllable.
  - it is based on a detailed Energy policy, including energy baseline, performance targets & action plans, KPIs

- Could be the business catalyst that EE needs
  - a standard that governments can promote,
  - companies can adopt,
  - citizens can lobby for.

EE’s market potential

EE: a huge market potential for SE



~$45bn incremental opportunity for the sector

40% in mature countries
60% in new economies

Mature countries: large **buildings** opportunity

New economies: large **industry** opportunity

Source: Schneider Electric estimates based on McKinsey Climate Change Special Initiative research

Introducing our EE initiatives

HOMES

Habitat & buildings for Optimized Management of Energy & Services

HOMES at a glance

- HOMES = Habitat & buildings for Optimized Management of Energy and Services
- Objective: equip all buildings with Active Energy Efficiency solutions to optimize energy performance
- HOMES is Europe's most important collaborative innovation program on Active Energy Efficiency in buildings
- Scope:
  - commercial buildings (offices, hotels, schools, retail) + Residential
  - new (build) and existing (retrofit) buildings
- Key figures:
  - duration: 2008-2012
  - over €80 M budget
  - Led by Schneider Electric, involving 20 partners
  - 120 FTE researchers

https://www.youtube.com/watch?v=5JP_WbxExE4

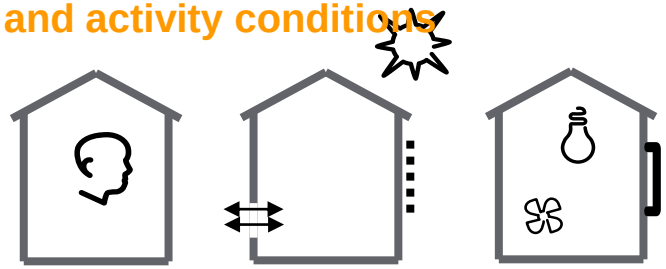
Why buildings?

- **40%** of Europe's energy consumption
- **250 M** buildings in Europe
- **300 kWh/m²/year** av. consumption

The 3 levers of Active Energy Effiency in buildings

1

Reduce energy needs in each room taking into account comfort and activity conditions



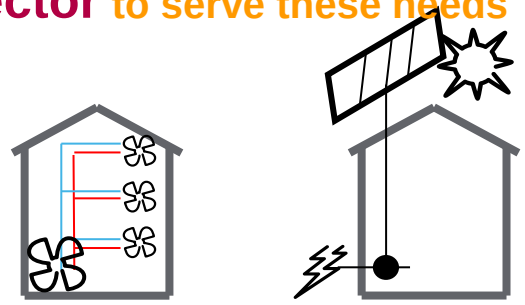
Adapt to occupancy and activity

Leverage free inputs

Optimisation through multi-applicative control

2

Optimise energy supply from each vector to serve these needs



Improve production and distribution performances

Manage energy sources by prioritisation of renewable energies and free inputs under grid constraints (Smart Grid)

3

Involve each & every person: awareness, improvement, maintenance over time

Tenant

Owner

Facility Manager

Energy Manager

Results at mid-program
- Active Energy Efficiency Savings potential

Savings from room-control functions in pilot sites

-57%

School

-43%

Office

-33%

Hotel

-23%

Residential

Thank you

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