WEG DAY

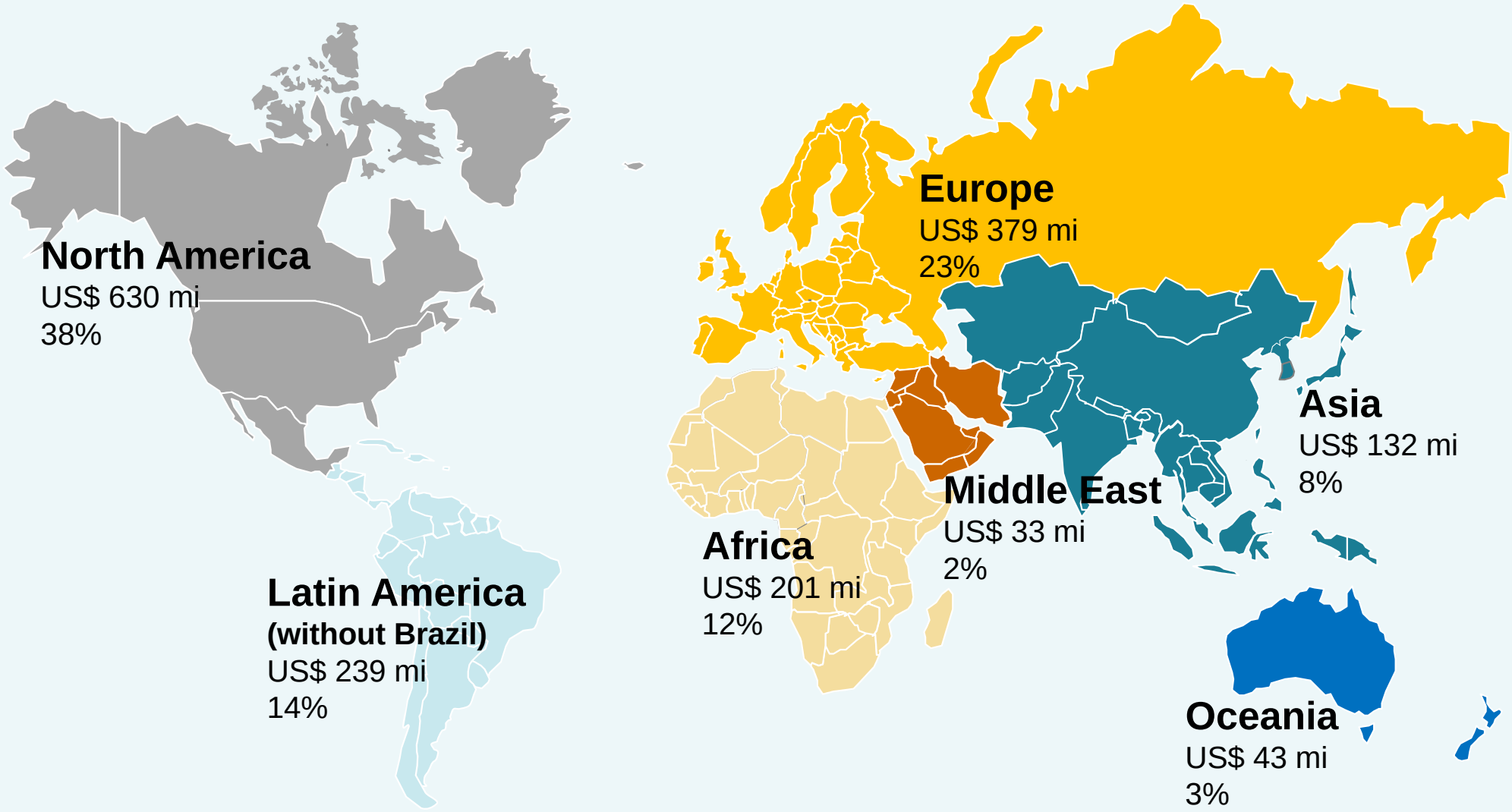
Jaraguá do Sul (SC)
May 22, 2015

Agenda

- **Siegfried Kreutzfeld**
  Autralasia
- **Julio Ramires**
  North America
- **Gustavo lensen**
  EMEA / South & Central Americas
- Break
- **Eduardo Nóbrega and Eduardo Werninghaus**
  Renewable Energies
- **Harry Schmelzer Jr.**
  Closing remarks
- Lunch
- Plant visit

WEG External Sales in 2014 (ex-Brazil)

US$ 1.6 billion



Global Market Overview

Low Voltage Electric Motors

Global Market U$ 14.6 bi WEG share 7.3% (3rd place)

Medium / High Voltage Electric Motors

Global Market U$ 5.6 bi WEG share 7.5% (3rd place)

Drives (LV & MV) and Soft Starters

Global Market U$ 11.9 bi WEG share less than 1%

Distribution & Power Transformers

Americas & Africa Market U$ 7.1 bi WEG share 5%

Source: IMS

WEG DAY

Market & main players

Australasia

Siegfried Kreutzfeld

Addressable market

How much does Australasia represents for WEG?

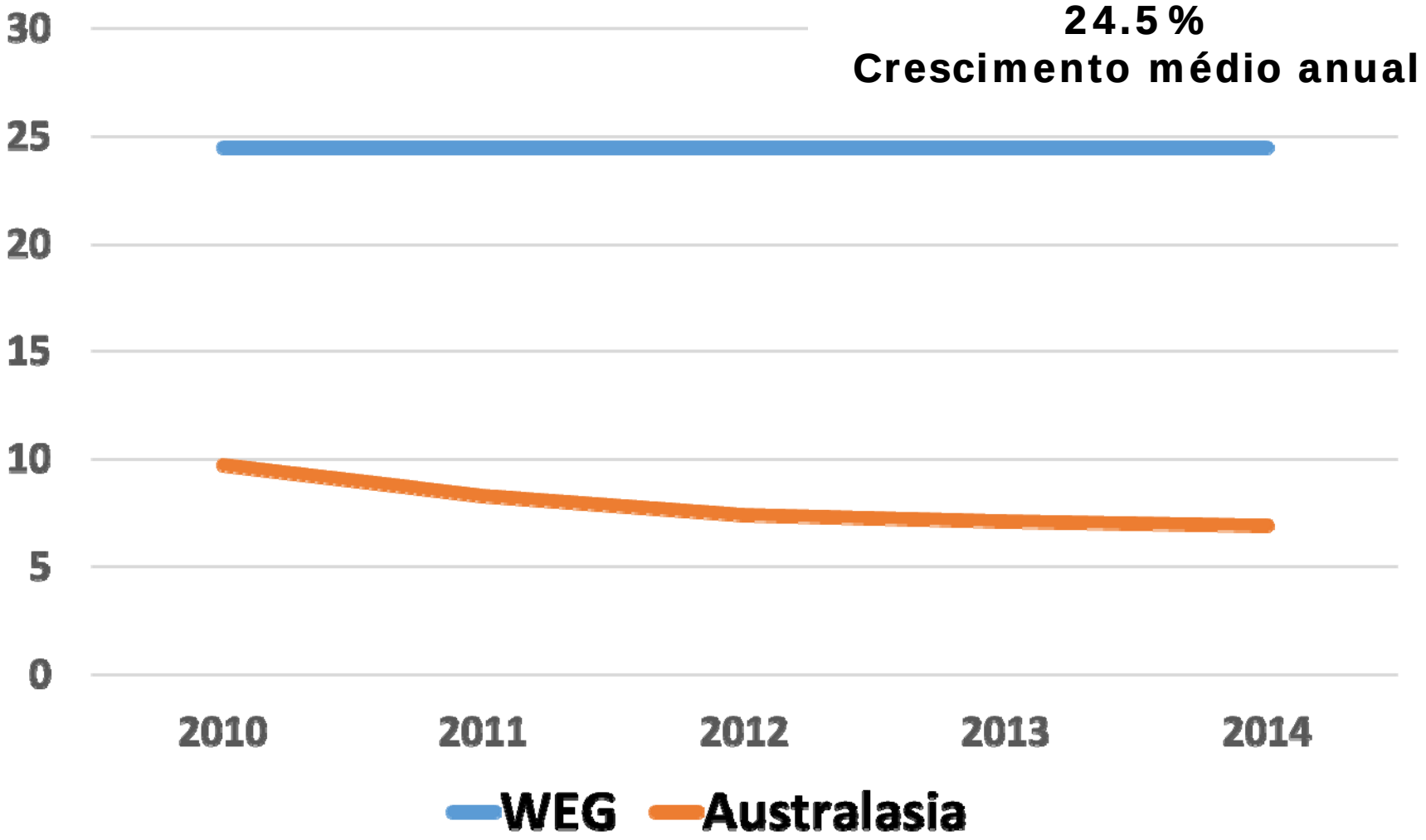
Potential Market

Motors + Automation

≈U$ 15 bi

≈U$ 10 bi in China, ≈U$ 5 bi other

Annual growth rates
WEG vs Australasia GDP



Footprint in Asia

Footprint in the region

- 13 Sales offices
- 38 Distributors
- 34 Technical assistants
- 3 Manufacturing plants

Manufacturing Footprint
WEG Nantong

- Acquired in 2005
- Total area: 67,000 m²
- Employees: 1,000
- Up to 360,000 motors/year

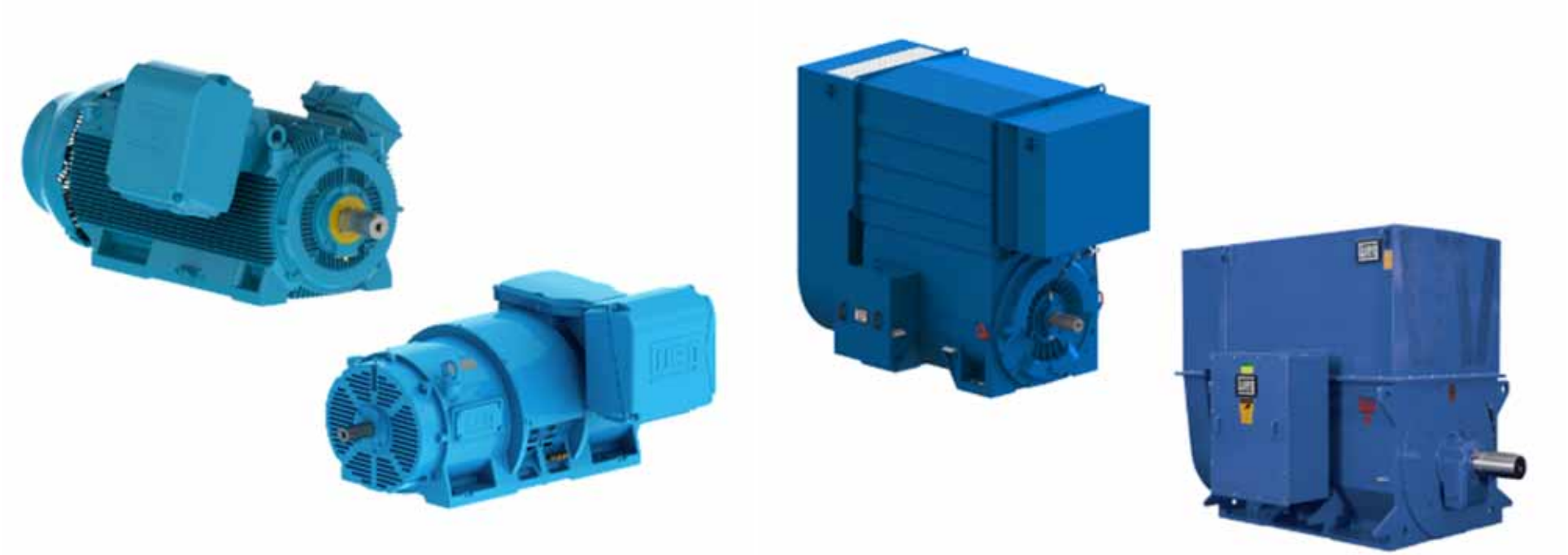
WEG Nantong
Low Voltage product line

- WEG's W21, W22 and W22 315L motor platforms
- From 0.12 up to 330 kW
- Compliance with IE2, IE3 or IE4 energy efficiency standards
- Aluminum or iron cast frames, from 63 to 355 mm

WEG Nantong

Medium and High Voltage product line

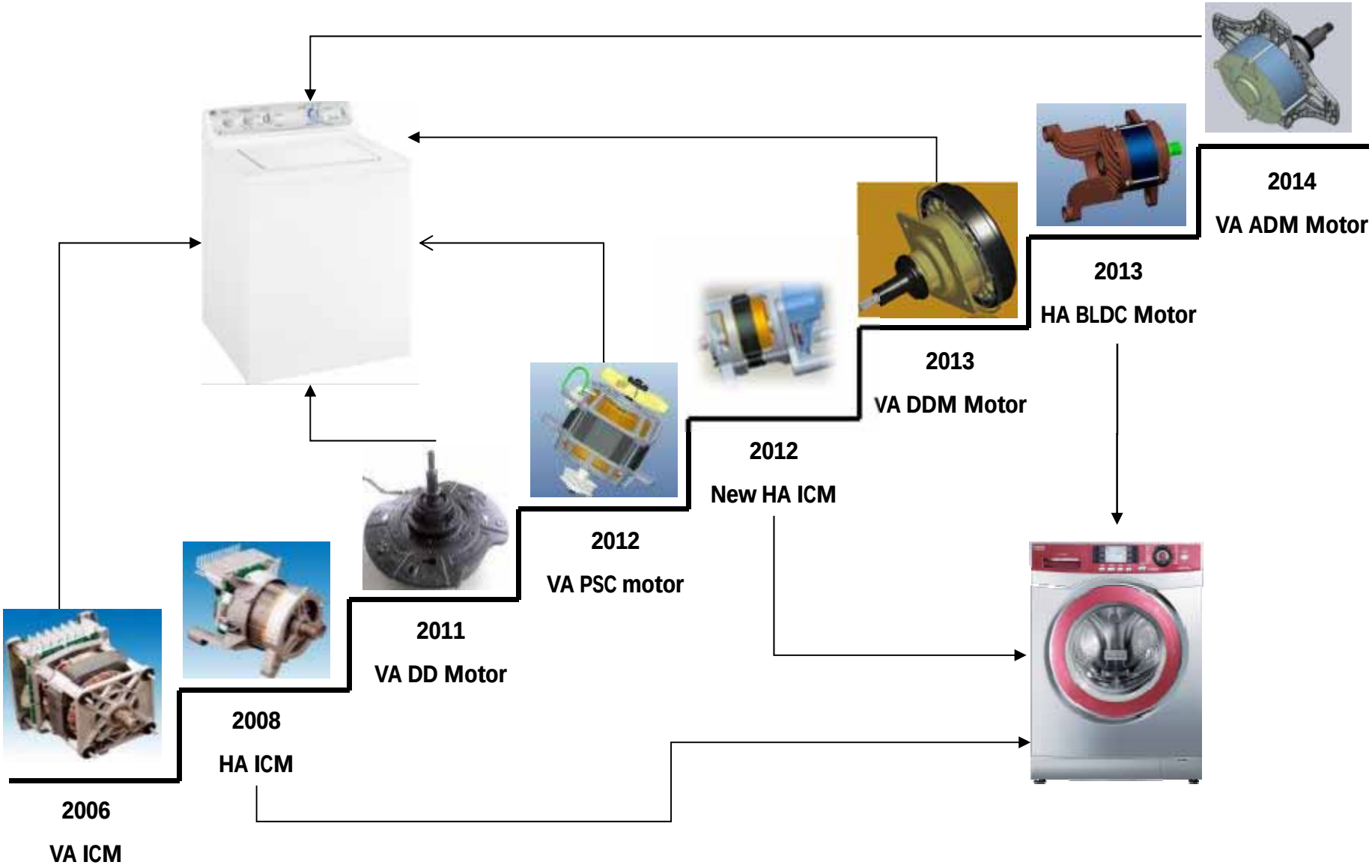
- Lines H, M, W40 and W60
- From 100 up to 5.000 kW
- Up to 13,800 volts
- Iron cast or steel frames, from 280 to 630 mm



Manufacturing footprint
WEG Changzhou

- Acquired in 2014
- 433,000 m2 total area
- Over 1,500 employees
- Capacity of up to 3 million motors/year

WEG Changzhou
Appliance electric motors product line



Manufacturing footprint
WEG Rugao

- Capex: U$ 125 M over 5 years (2018)
- 185.000 m² total area
- Start up in August 2015
- 900.000 motors/year at full capacity

Manufacturing footprint
WEG Rugao

First Stage (August 2015) 30.000 m²

WEG Rugao
Low Voltage product line

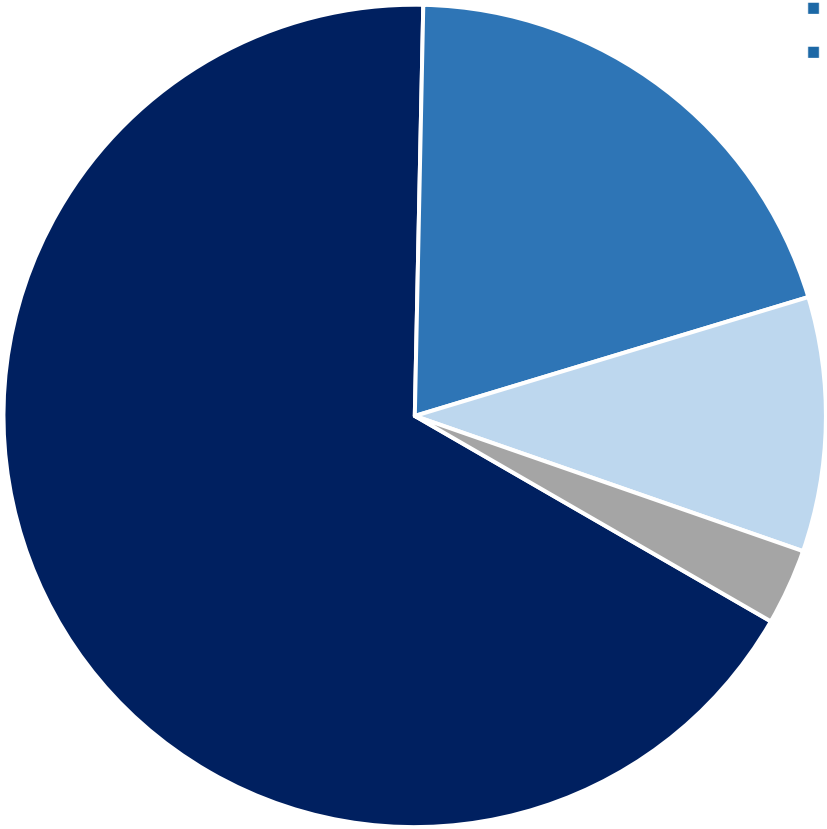
- WEG's W20, W21 and W22 motor platforms
- From 0.12 up to 330 kW
- Compliance with IE2, IE3 or IE4 energy efficiency standards
- Aluminum or iron cast frames, from 63 to 355 mm

Market Position

Sales Channels

Distribution
20%

- Inventories
- Technical assistance and services



OEMs
67%

- Ventilation
- Pumps
- Compressors

Infrastructure
10%

- Water & sanitation
- Irrigation
- Energy

End Users
3%

- Cement
- Mining
- Oil & Gas

Original Equipment Manufacturers

Ventilation

KRUGER

Howden

SULLAIR
Always air. Always there.

GREENHECK
Building Value in Air.

halifax fan

SHENYANG BLOWER WORKS GROUP
SBW ELECTRO-MECHANICS IMPORT & EXPORT CORPORATION

Pumps

ITT

SULZER

KSB

ALFA LAVAL

FLOWSERVE

Gardner Denver

Compressors

Atlas Copco

IR Ingersoll Rand

BOGE

FS ELLIOTT

ShaanGu

End Users

Mining

metso

ThyssenKrupp

FMG Fortescue

NHI 北方重工

SANDVIK

CITIC PACIFIC

Shipbuilding

WÄRTSILÄ

ZPMC

NOVENCO

COSCO

HEINEN & HOPMAN

General Industry

GOODYEAR

Cargill

BAOSTEEL

BUNGE

SINOMA

Opportunities

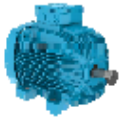
Chinese Government
Nine Directives

Innovation

Government pushing toward “design” instead “manufacturing”

Energy Efficiency
EM design / specifications changing fast

Example: EM 75kW, 380v, 4 poles, 280 frame

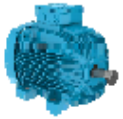
	Motor model	Performance	Improvement
	Y1	92.7%	
	Y2	93.8%	1.1%
	Standard efficiency	94.4%	0.6%
	High efficiency	95.0%	0.6%
	Top premium efficiency	95.8%	0.8%

Total: 3.1%

Energy Efficiency

Annual energy savings from replacement of older motors

Example: EM 75kW, 380v, 4 poles, 280 frame

	Motor model	Performance	Annual savings
	Y1	92.7%	
	Y2	93.8%	¥ 2.970
	Standard efficiency	94.4%	¥ 1.620
	High efficiency	95.0%	¥ 1.620
	Top premium efficiency	95.8%	¥ 2.160

Total: ¥ 8.370

Ahead on technological develpment

High efficiency electric motors

Atmospheric pollution in China

Atmospheric pollution in China
Solutions and opportunities

More efficient products and systems

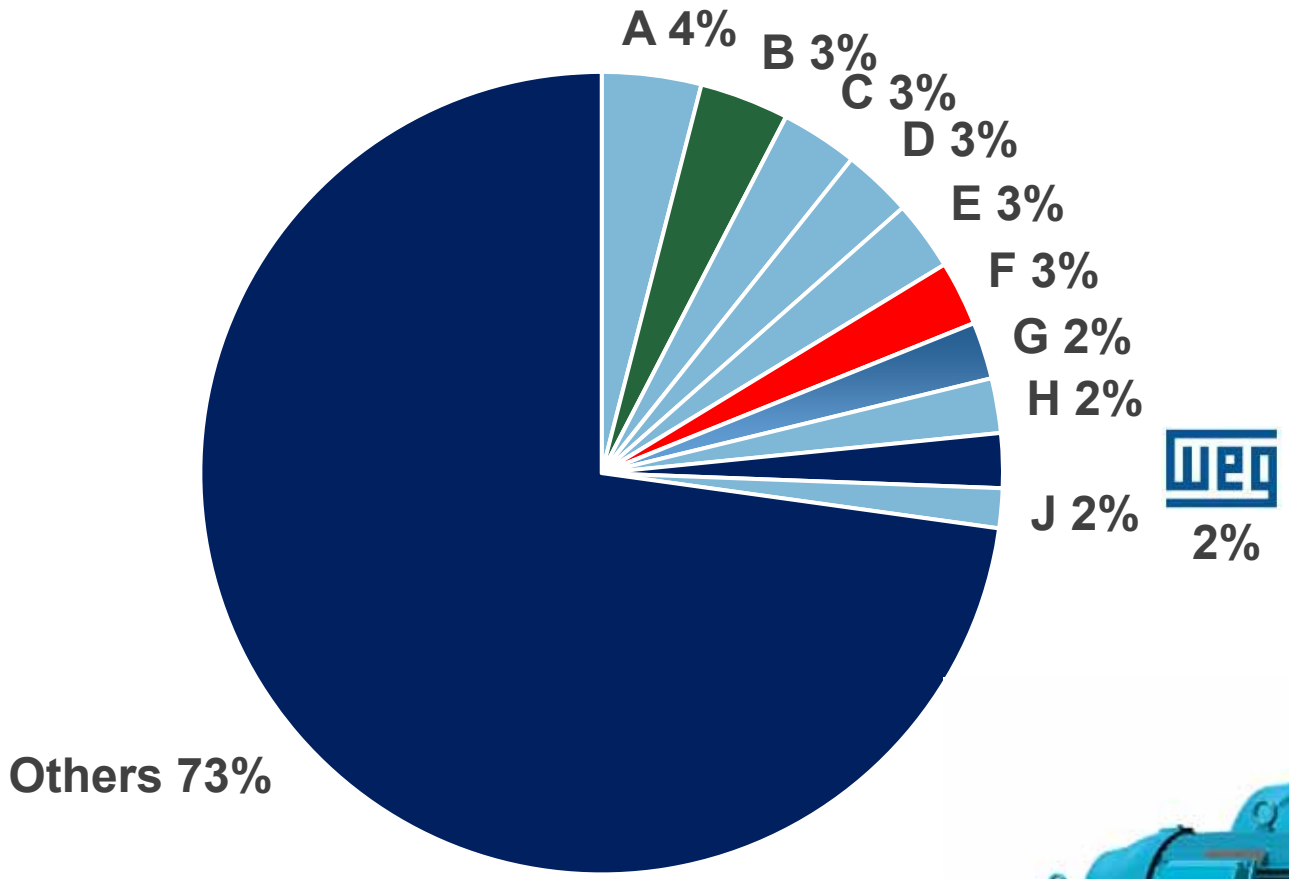
Renewable energies (wind and solar)

Electric traction

Chinese Market & main players

Chinese low voltage electric motor market

Top Chinese LVEM players



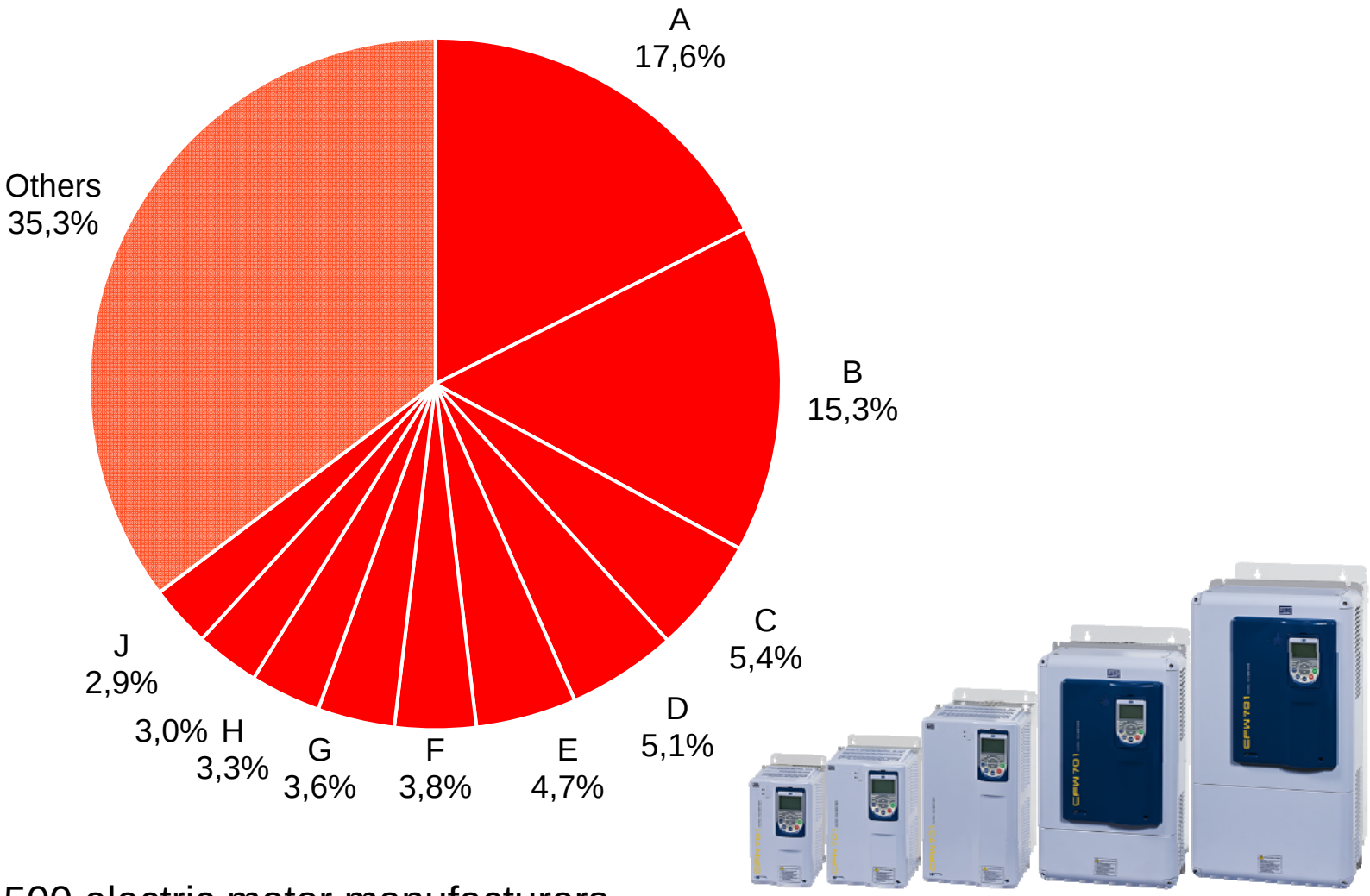
Around 2.500 electric motor manufacturers

Chinese High voltage electric motor market

Chinese low voltage drives market

U$4,8 Billion

Top Chinese LV Drivers players



Around 2.500 electric motor manufacturers

WEG in 2020
Main strategic goals

The **Future** is **Now**

The opportunity is the largest EM & drives market in the world

WEG's ambition is to be among the top 4 largest players in the market by 2020

Strategic Goals
2015 - 2016

- Accelerate expantion:
  - Industrial Low voltage electric motors (organic and non-organic)
  - High voltage electric motors (organic)
- Explore non-organic growth alternatives
- Explore alternatives for alternator footprint
- Guide appliance business towards middle / high end technologies

Strategic Goals
2017 - 2018

- Continue electric motors expantion in Chinese market and increase exports across Asia
- Acelerate business expansion in Asia
  - High voltage products
  - Drives and controls
- Continue expansion in appliance with major international EOMs (Whirllpool and Eletrolux)

Strategic Goals
2019 - 2020

- Be among top 4 players in low voltage electric motors
- Continuous growth in high voltage products and drives & controls
- Continuous growth of global appliance business

WEG DAY

North America

Júlio Ramires

North America's Market Potential

Considering WEG's product scope

Low Voltage Motors
Market size **U$ 3.6 bi**
WEG's Share: **9%**

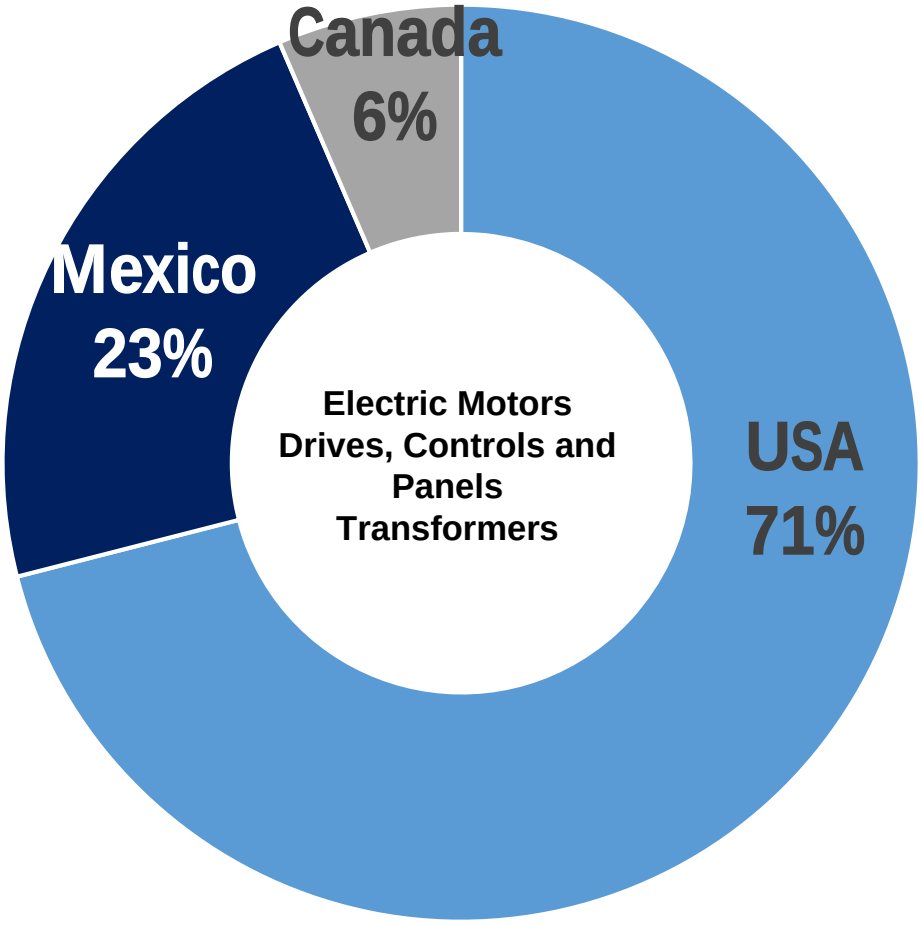
Medium Voltage Motors
Market size **U$ 994 mi**
WEG's Share: **9%**

Low Voltage Drives
Market size **U$ 1.6 bi**
WEG's Share **< 1%**

Transformers
Market size **U$ 1.6 bi**
WEG's Share**: 5%**

Source: IHS and Nema Report

Net Revenues in 2014 by Country in %



Product Portfolio

Electric Motors

Drives, Controls and Panels

Transformers

Manufacturing Footprint

Mexico

México - Huehuetoca

- Products: **Single and Three phase motors and Electrical Panels**
- Built area**: 50,000 m²**
- Employees: **1033**

México - Huehuetoca

- Products: **Power Transformers and Substations**
- Built area: **12,000 m²**
- Employees: **184**

México - Tizayuca

- Products: **Distribution and Medium Power Transformers**
- Built area: **15,000 m²**
- Employees: **531**

Manufacturing Footprint

USA

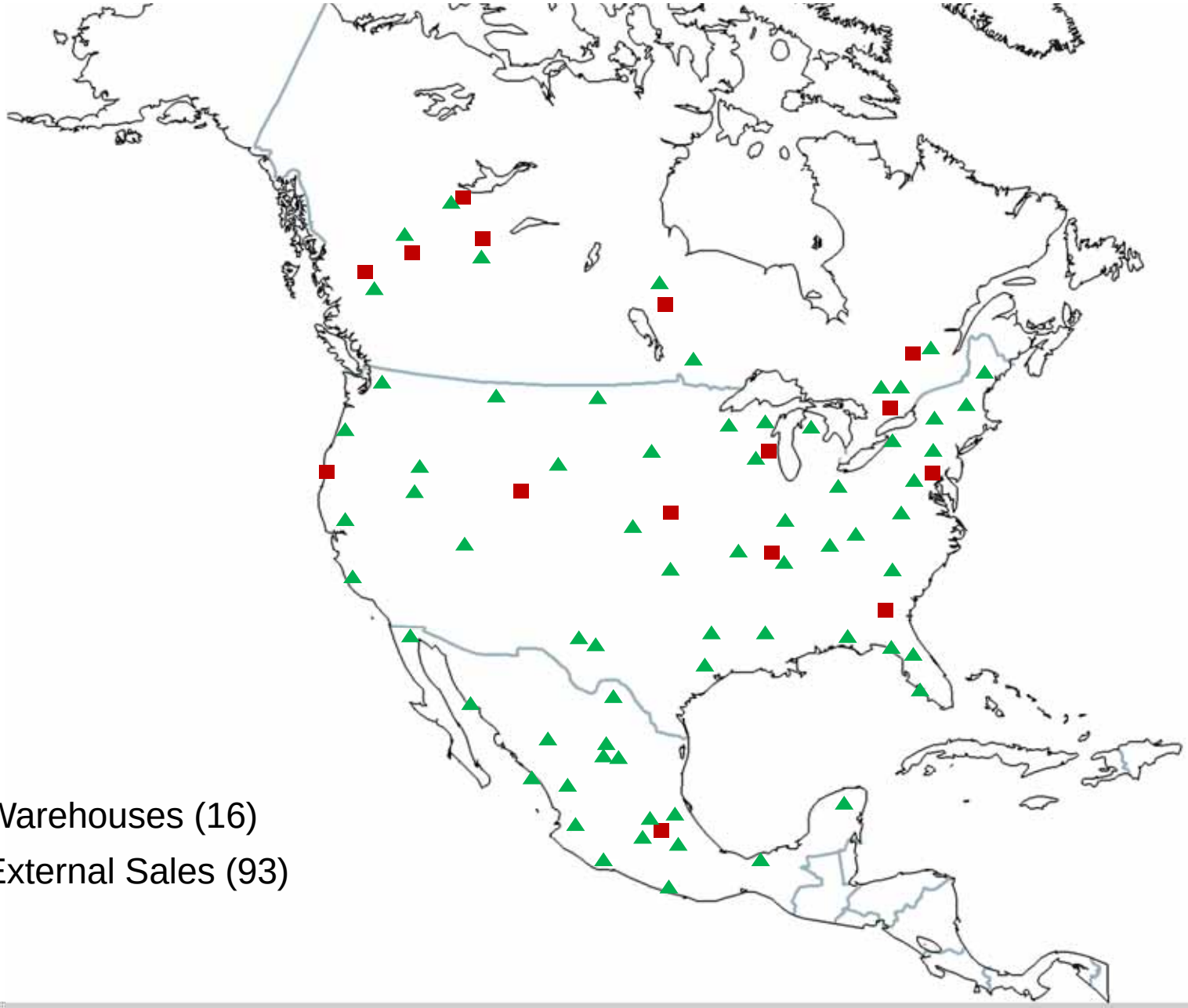
United States - Minneapolis

- Products: **Induction Motors, Motors and Synchronous Generators and Turbo Generators**
- Built area: **35,000 m²**
- Employees: **232**

United States - Atlanta

- Products: **Electric Panels Shop**
- Built area: **24,000 m²**
- Employees: **290**

Sales and Warehouses Footprint

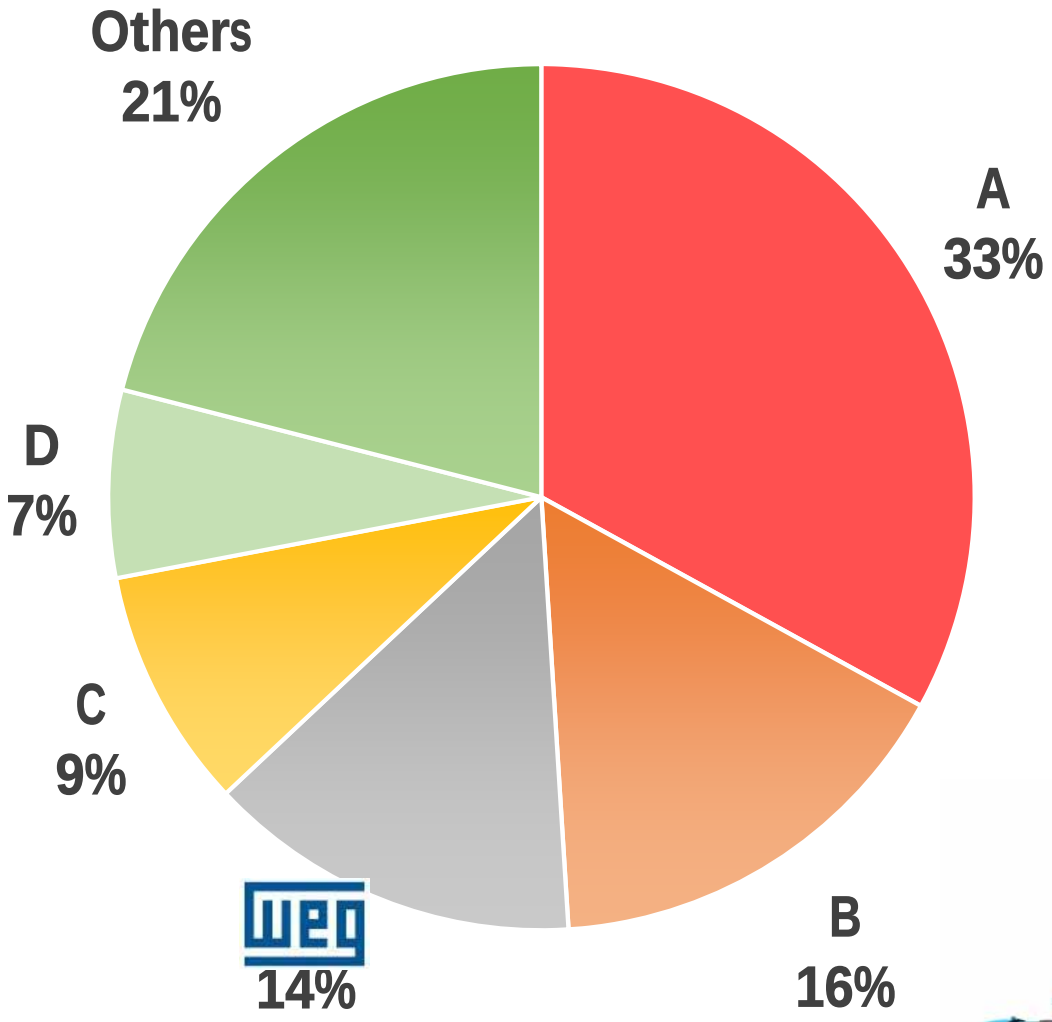


Warehouses (16)

External Sales (93)

Main players in US Market

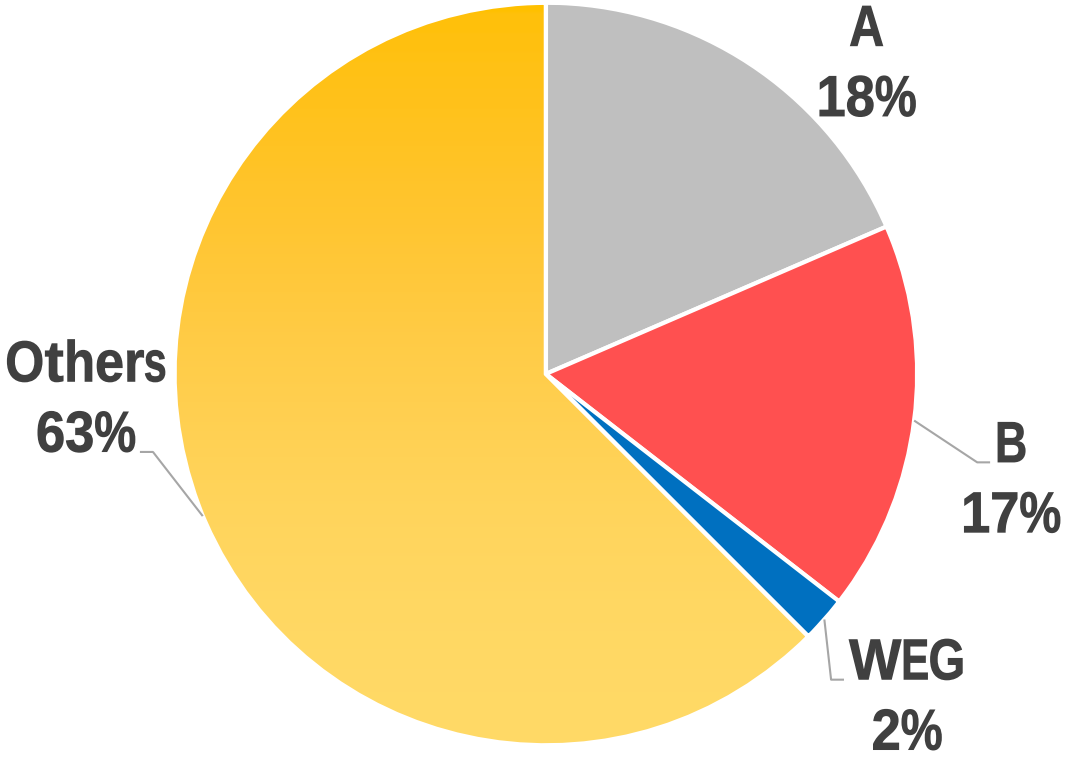
Integral HP - low voltage electric motor



Source: NEMA Report

Main players in US Market

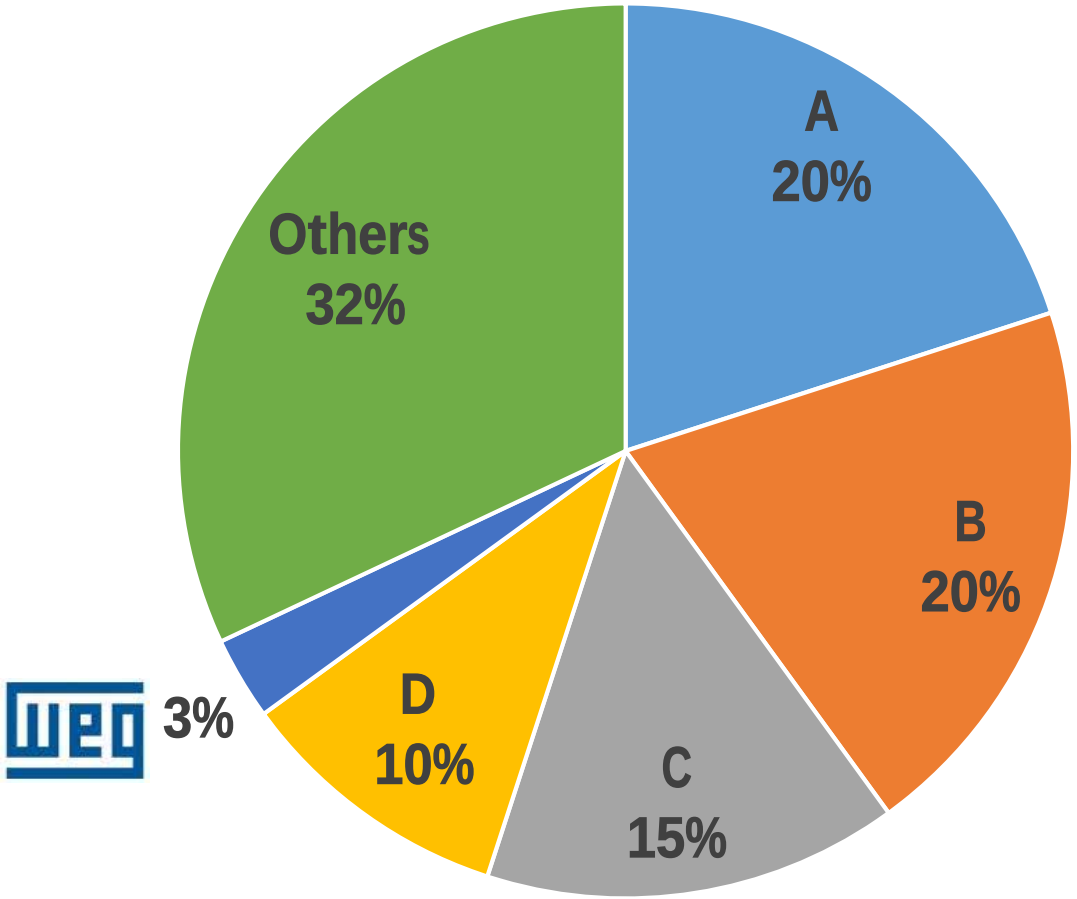
Fractional HP - low voltage electric motor



Source: IMS Report

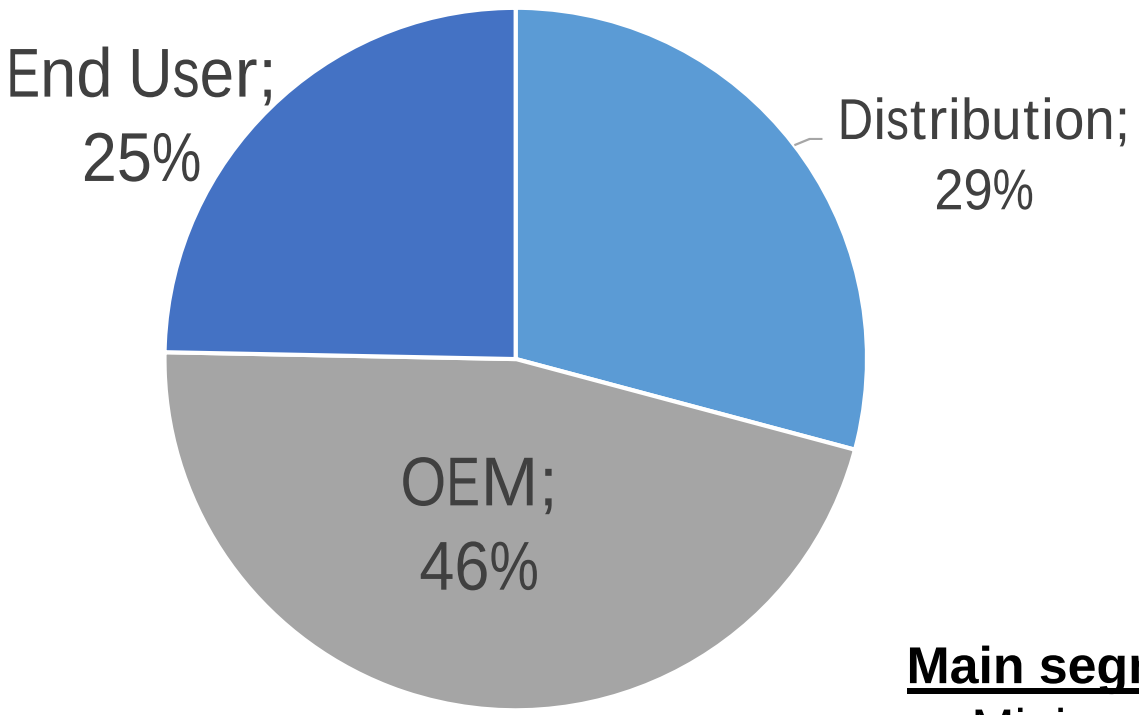
Main players in US Market

Power transformers



Source: Nema and US Custom Report

Sales channels



Main segments:

- Mining
- Oil & Gas
- Cement
- Pulp & Paper
- Power Generation
- Water & Wastewater Management

Main Customers

OEM's

SULZER

Ingersoll Rand

FLOWSERVE

Atlas Copco

xylem
Let's Solve Water

Johnson Controls

GOULDS PUMPS

Gardner Denver

WEIR

PENTAIR

Howden

SPX

DRESSER-RAND

End User

INTERNATIONAL PAPER

PEMEX

AEP AMERICAN ELECTRIC POWER

ArcelorMittal

AIR LIQUIDE

Vulcan
Materials Company

ExxonMobil

VALERO

PHILLIPS 66

ecopetrol

PRAXAIR
Making our planet more productive.

CEMEX

EPCs

FLUOR

BECHTEL

SNC·LAVALIN

amec
foster
wheeler

JACOBS

Main Guidelines

- Transformers
  - Increase the presence in the large "utilities" (IOU's)
  - Increase the presence in the replacement of transformers
- Electric Motors / Drives
  - Strengthen presence in the Oil & Gas segment
  - Consolidate the manufacturing of Medium Voltage Drives and Soft Starters in the USA
  - Expansion of electric panels manufacturing in Mexico
  - Verticalization of motors manufacturing in Mexico.

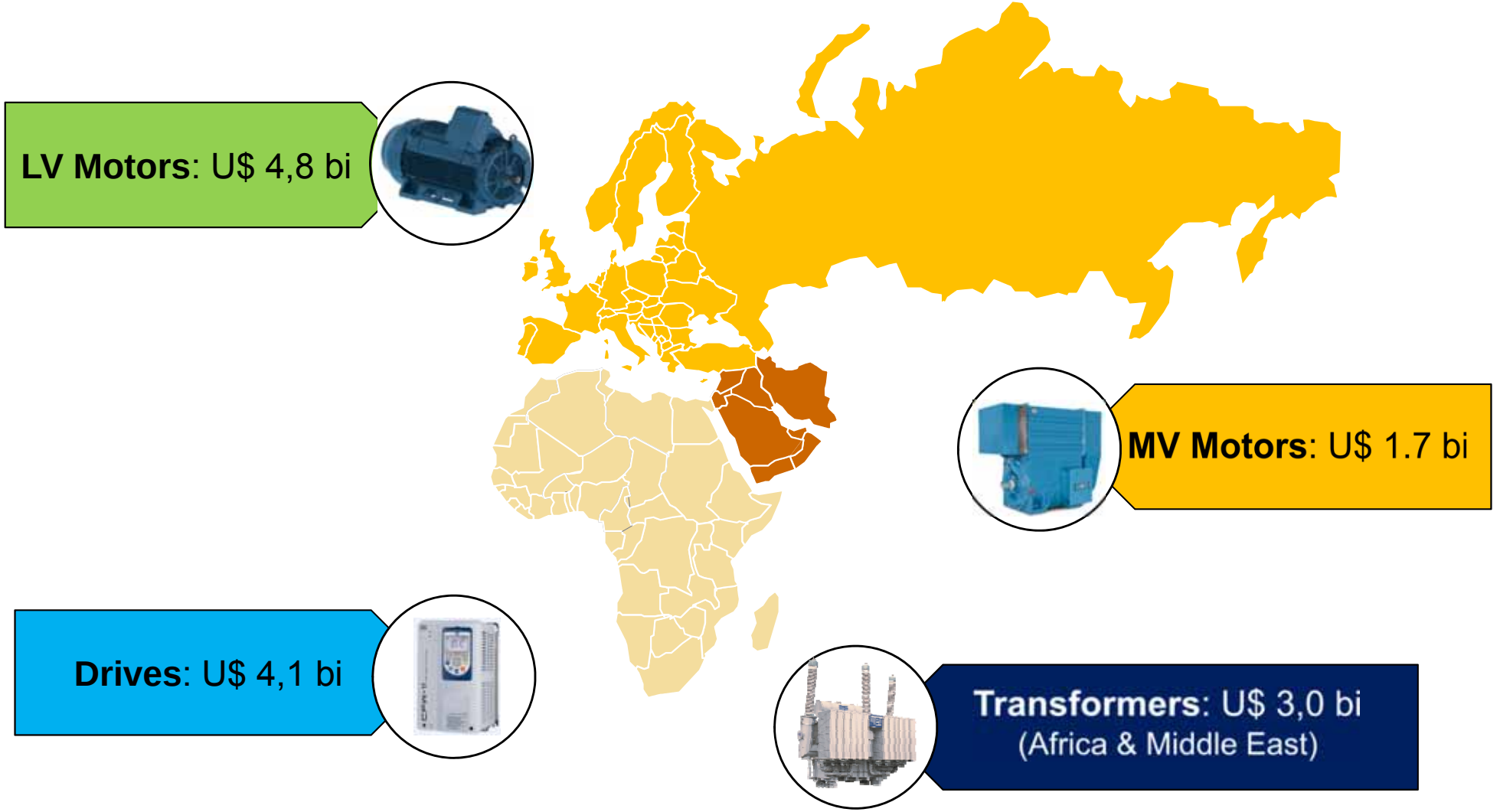
WEG DAY

International Markets

Gustavo lensen

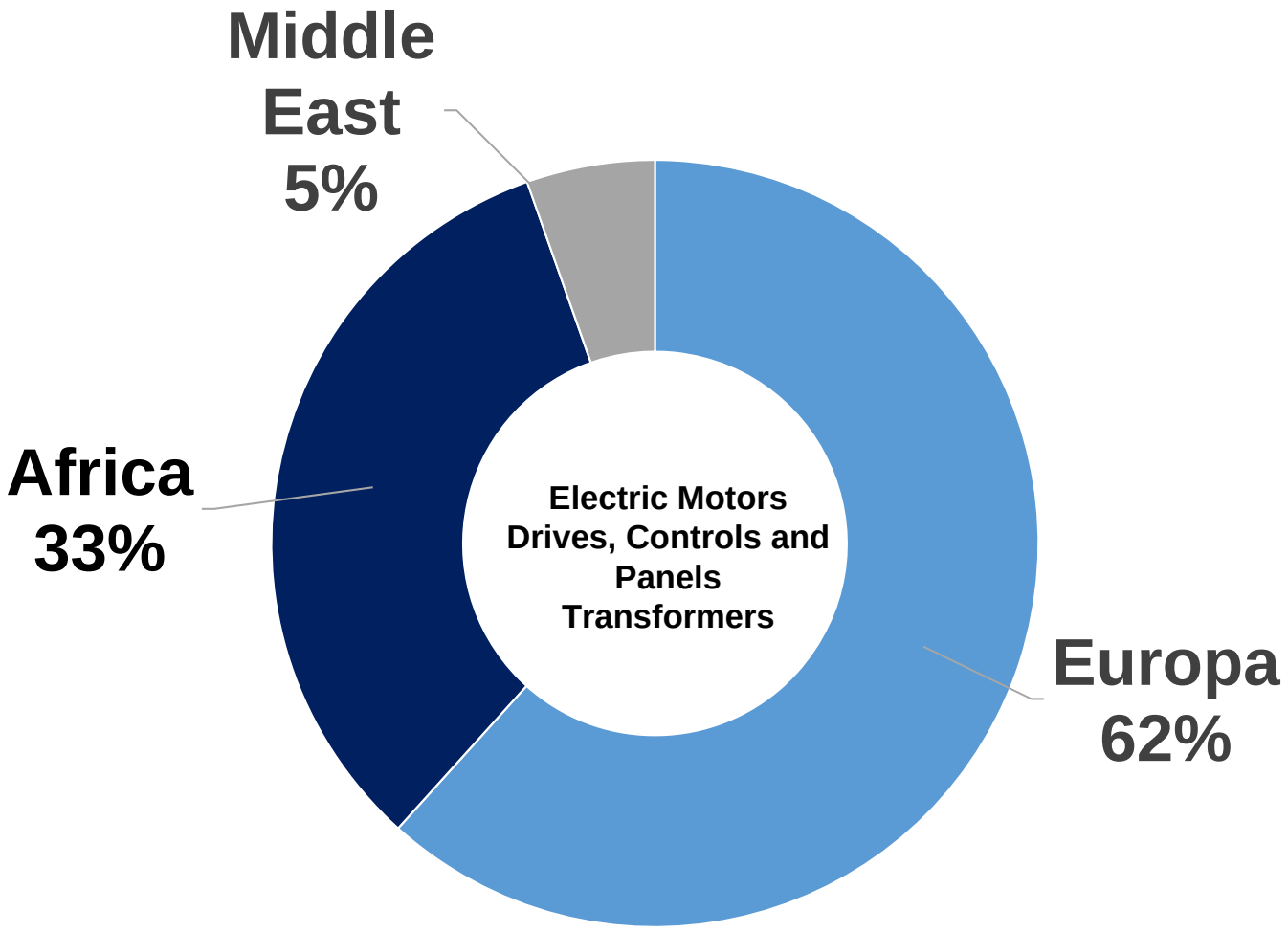
Europe, Middle East and Africa
EMEA

Addressable Market
EMEA



Source: IMS Report

Revenues distribution by region
EMEA



Product Portfolio
EMEA

Motors

IE4
IE3

Automation

Transformers
(Africa)

Manufacturing footprint
Europe

Austria – Watt Drive

- **Gearboxes**
- Total area **17,658 m²**
- **151** employees

Germany – WEG Balingen

- **Small gearboxes, small motors**
- Total area **5,081 m²**
- **70** employees

Germany – KATT Motoren

- **Special Electric Motors**
- Total area **28,535 m²**
- **191** employees

Portugal – WPT

- **LV and HV Electric Motors**
- Total area **18,150 m²**
- **303** employees
- Expansion project to **20,000m²**

Manufacturing footprint

Africa

South Africa – ZEST Energy

Power Generation and Energy Specialists
Total area **7.821 m²**

South Africa – Shaw Controls

Packaged switchgear solutions
Total Area: **8.987 m²**

South Africa – ENL Electrical

Electrical, Instrumentation & Control system installations
Total area 505 m²

South Africa – IMS

Custom Built Standby Power Generation
Total area: **3137 m²**

South Africa – WEG Transformers Africa

Mini and Unit Substations
Total area: **7.821 m²**

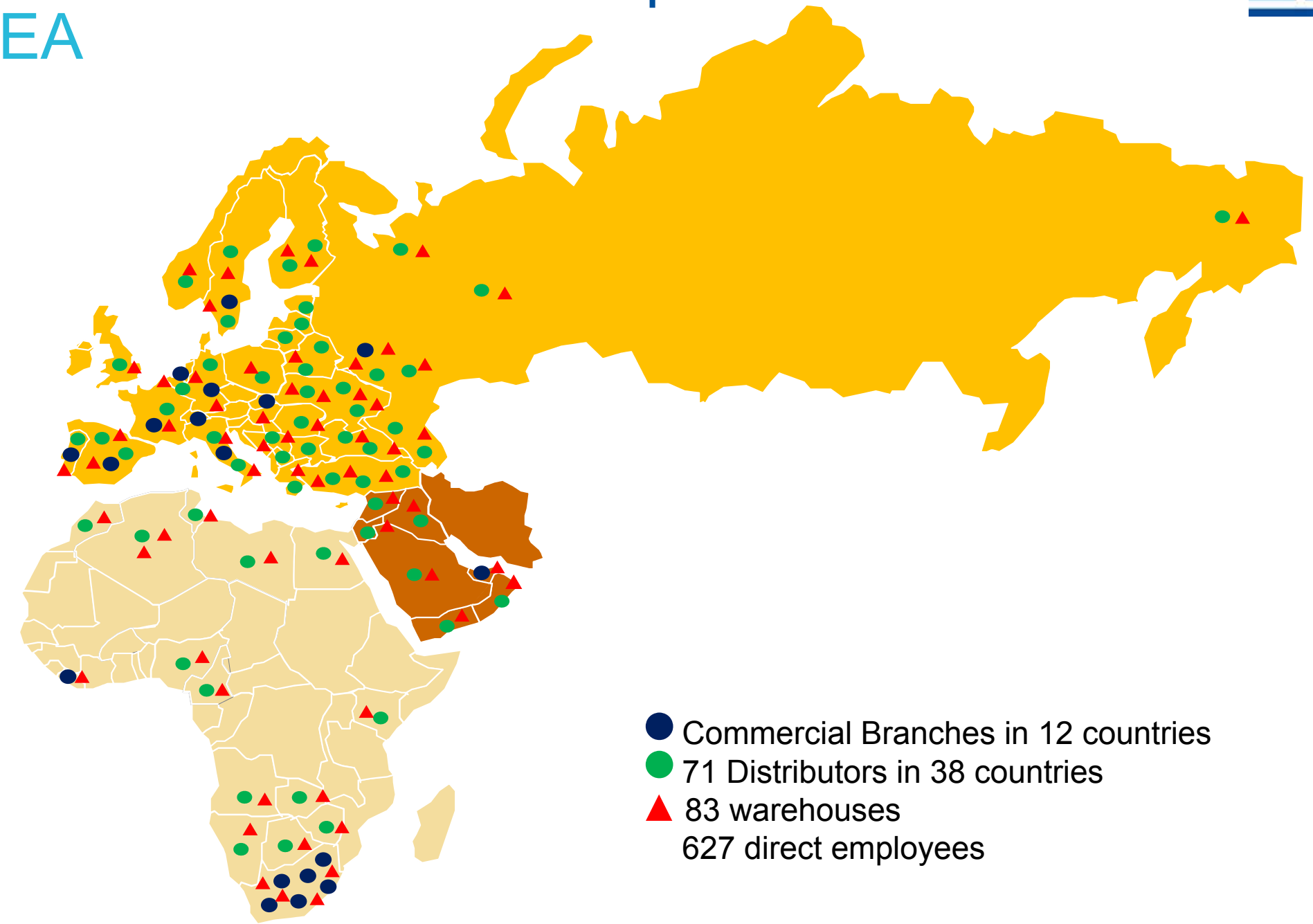
South Africa – TSS Transformers

High voltage transformers, mini substations, circuit breakers manufacturing
Total Area: **45,000 m²**

Total 461 employees

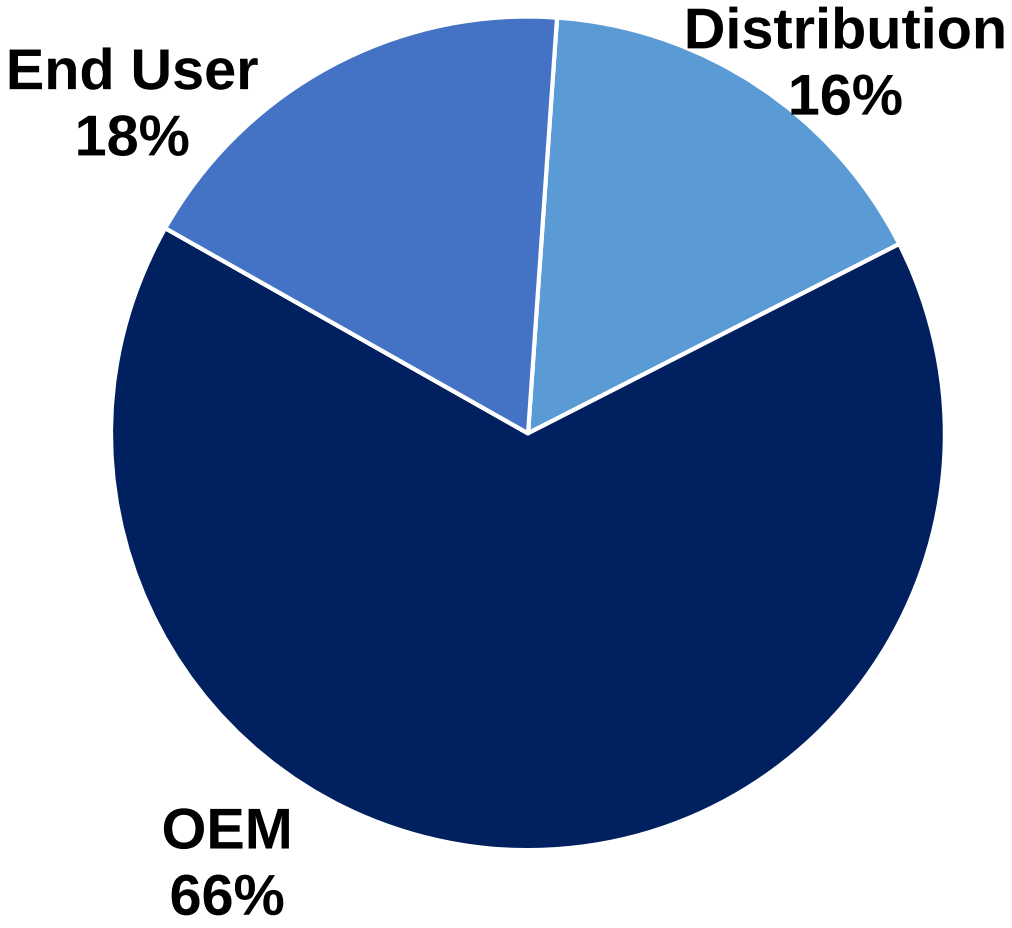
Sales and Distribution footprint

EMEA



- Commercial Branches in 12 countries
- 71 Distributors in 38 countries
- 83 warehouses
- 627 direct employees

Sales channels
EMEA



Main segments:

- Mining
- Oil & Gas
- Water & Wastewater
- Power Generation
- Pulp & paper
- Cement

Main Customers
EMEA

OEM's

SULZER

Ingersoll Rand

FLOWSERVE

Atlas Copco

xylem
Let's Solve Water

Johnson Controls

GOULDS PUMPS

Gardner Denver

WEIR

PENTAIR

Howden

SPX

GEA

Rolls-Royce

GE Oil & Gas

End User

INTERNATIONAL PAPER

ArcelorMittal

sasol
reaching new frontiers

LUKOIL

ANGLO AMERICAN

ارامكو السعودية
Saudi Aramco

TOTAL
COMMITTED TO BETTER ENERGY

RioTinto Alcan

Statoil

Engineering Company

SAMengineering
Customised Pump Solutions

BECHTEL

amec foster wheeler

FLUOR

Technip

eni
saipem

TECNICAS REUNIDAS

ThyssenKrupp

SAMSUNG

SAMSUNG ENGINEERING

Main Guidelines
EMEA

- Strengthen presence in the following segments:
  - Oil & Gas: Mainly Middle East
  - Mining: Sub-Saharan Africa
  - Water & Wastewater: across EMEA
  - Power Generation: across EMEA

Europe

- Consolidate footprint in LV/HV Electric Motors
- Establish footprint in Drives

Africa

- Consolidate presence in Transformers

Middle East

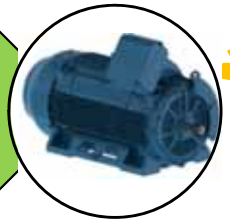
- Establish footprint in services

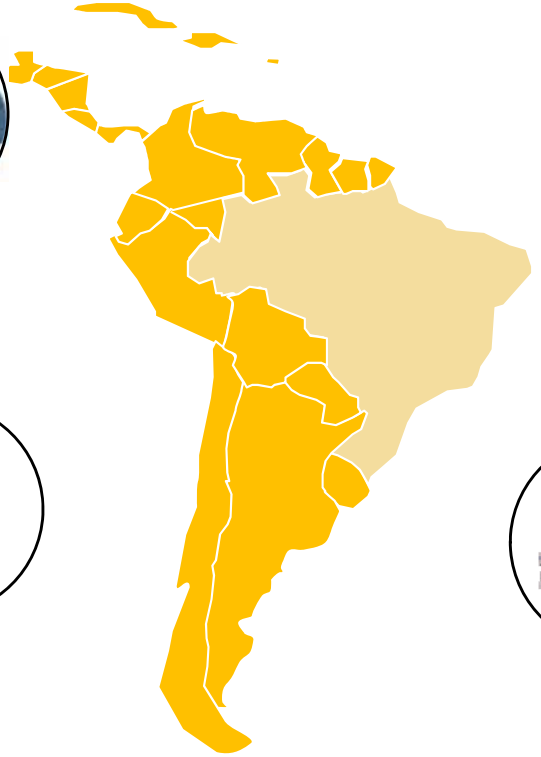
Central & South America

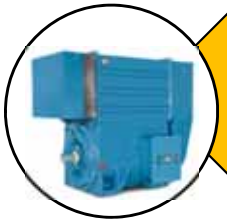
(ex-Brazil)

Addressable Market
Central & South America (ex-Brazil)

LV Motors: U$ 935 mi

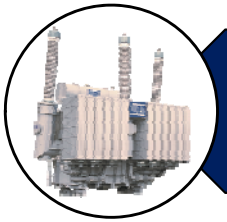






MV Motors: U$ 432 mi

Drives: n.a.



Transformers: U$ 500 mi

Coatings: U$ 500 mi

Product portfolio
Central & South America (ex-Brazil)

Motors

IE4
IE3

Drives

Transformers

Coatings

Manufacturing footprint
South America (Ex-Brazil)

Colombia - FTC Energy

Panel Shops
Total area: **1400m²**

Colombia - Suntec

Transformers
Total area: **5000m²**

Argentina – WEG Cordoba

Products: **Appliance motors**
Total area: **15,212 m²**

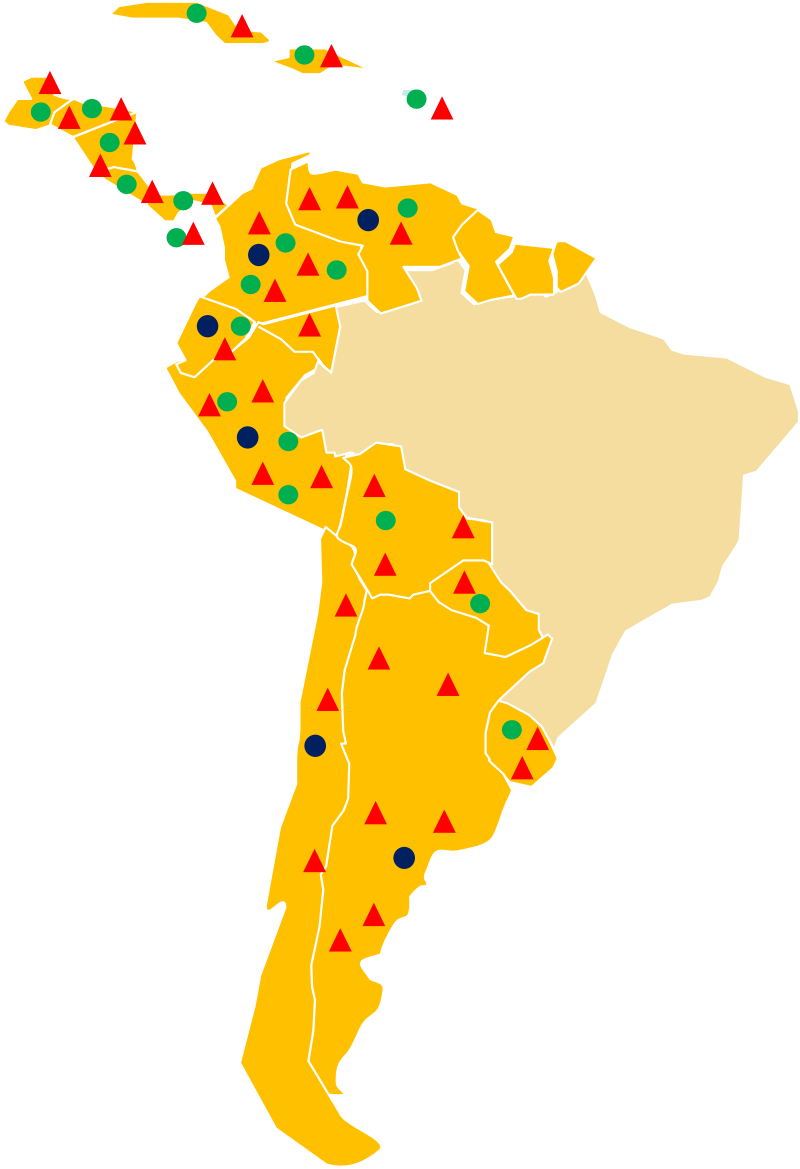
Argentina - Pulverlux

Paints
Total area: **10,000m²**

Argentina – WEG Equipamientos Elétricos

Panel Shops
Total area: **64,276 m²**

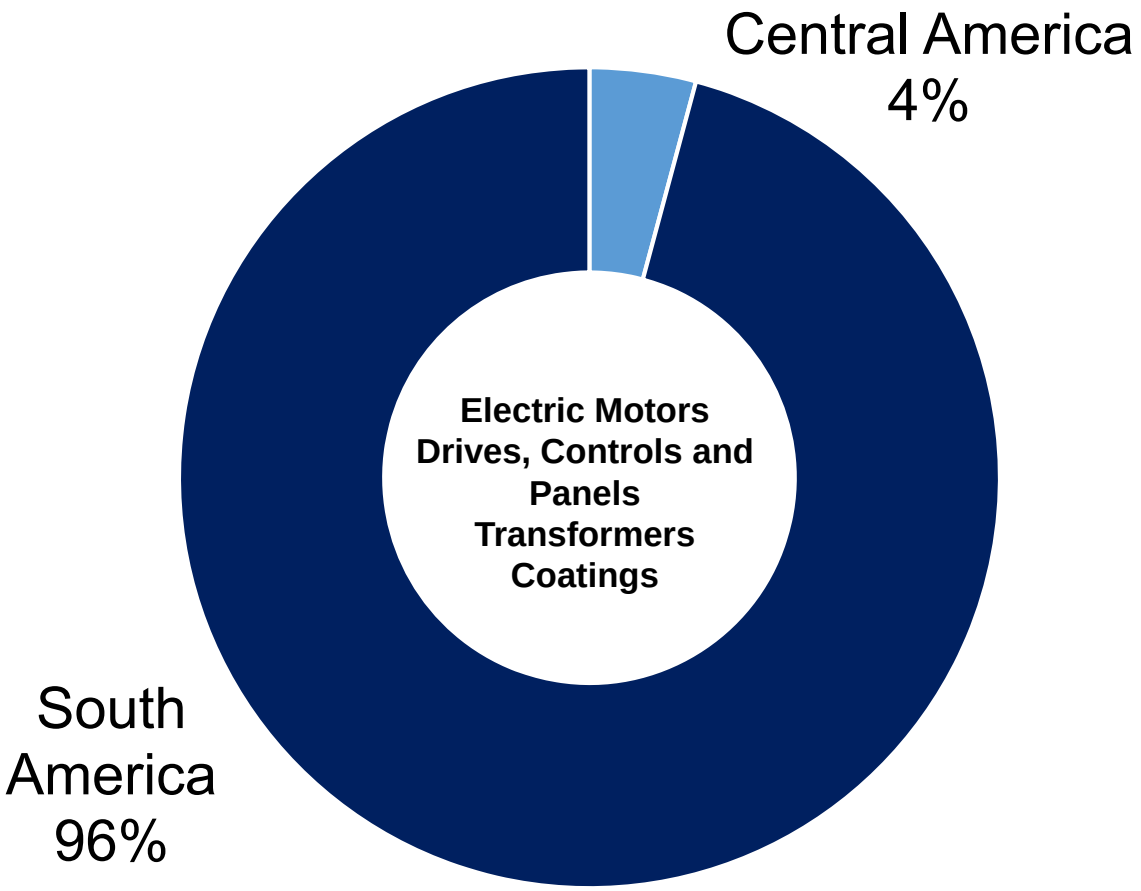
Sales and Distribution footprint
Central & South America (Ex-Brazil)



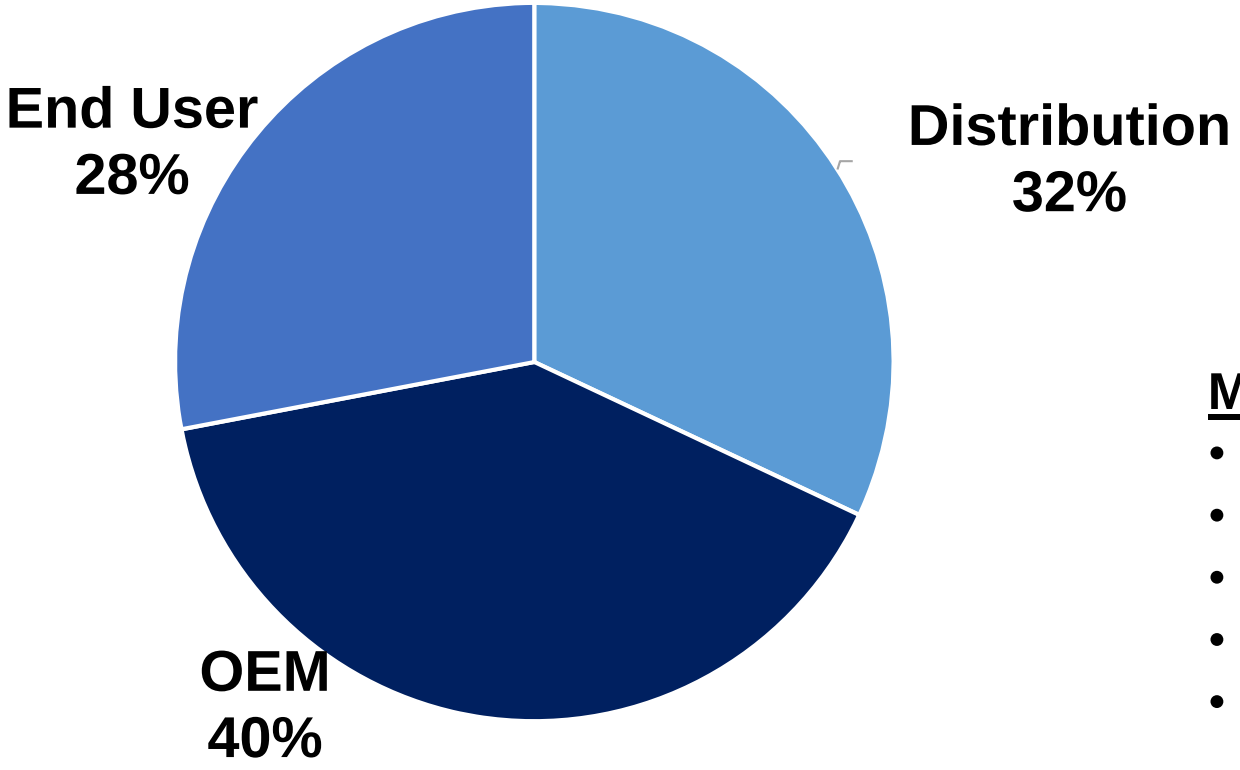
- Commercial Branches in 9 countries
- 39 Distributors in 17 countries
- 48 Warehouses

Direct Employees: 556

Revenues breakdown
Central & South America (ex-Brazil)



Sales Channels
Central & South America (ex-Brazil)



Main segments:

- Mining
- Oil & Gas
- Water & Wastewater
- Power Generation
- Food & Beverage

Main Customers
Central & South America (ex-Brazil)

OEM's

SULZER

Ingersoll Rand

FLOWSERVE

Atlas Copco

GOULDS PUMPS

Gardner Denver

WEIR

Howden

SULLAIR

DRESSER-RAND

GALILEO

DELTA

KSB

Alladio

MAYEKAWA

End User

MINERA ESCONDIDA
Operada por BHP Billiton

CODELCO

YPF

PDVSA

sabesp

USIMINAS

VALE

CSN

Engineering Company

JACOBS

SNC·LAVALIN

BECHTEL

amec foster wheeler

FLUOR

Technip

HATCH

Ausenco

WorleyParsons
resources & energy

SKM minmetal

Main Guidelines
Central & South America (ex-Brazil)

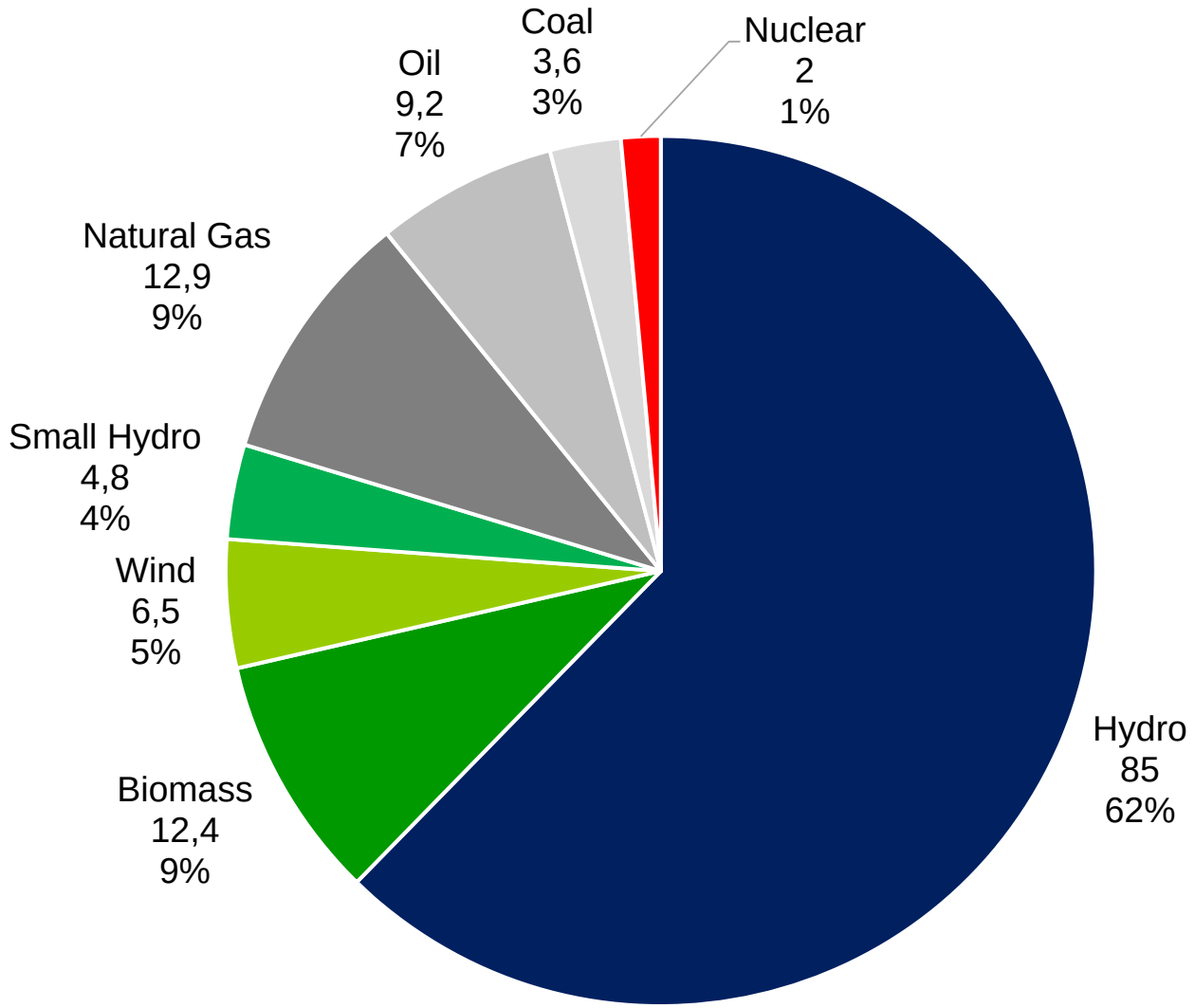
- Strengthen presence in target segments:
  - Mining: All products
  - Oil & Gas: All products
  - Water & Waste Water: All products
  - Power Generation: Complete solutions
- Consolidate footprint in transformers in South America
- Consolidate footprint in automation panels in South America
- Consolidate footprint in coatings in South America

Renewable Energies

Eduardo Werninghaus

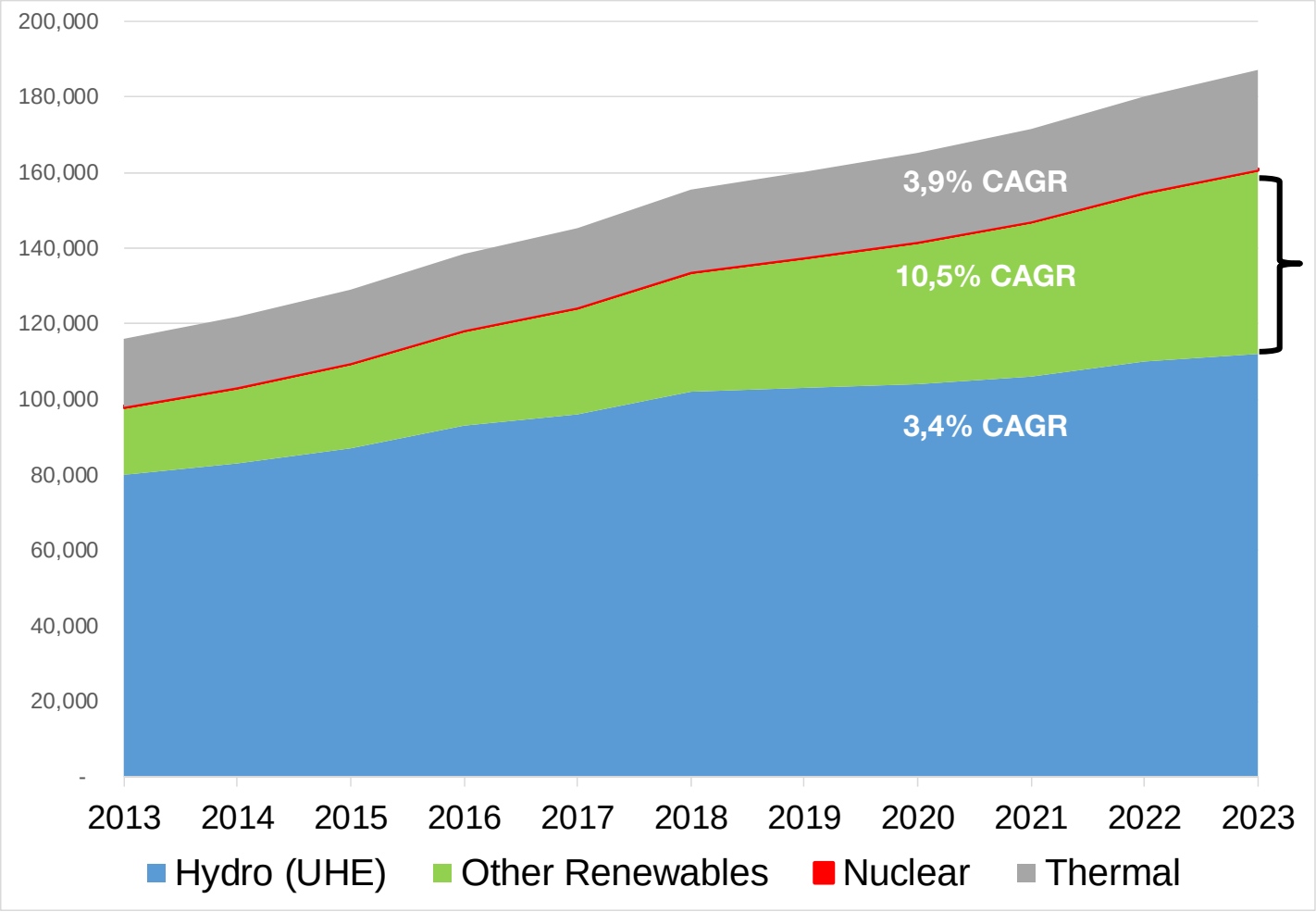
Brazil installed capacity

GW



Source: ANEEL

Brazil electricity demand over next 10 years

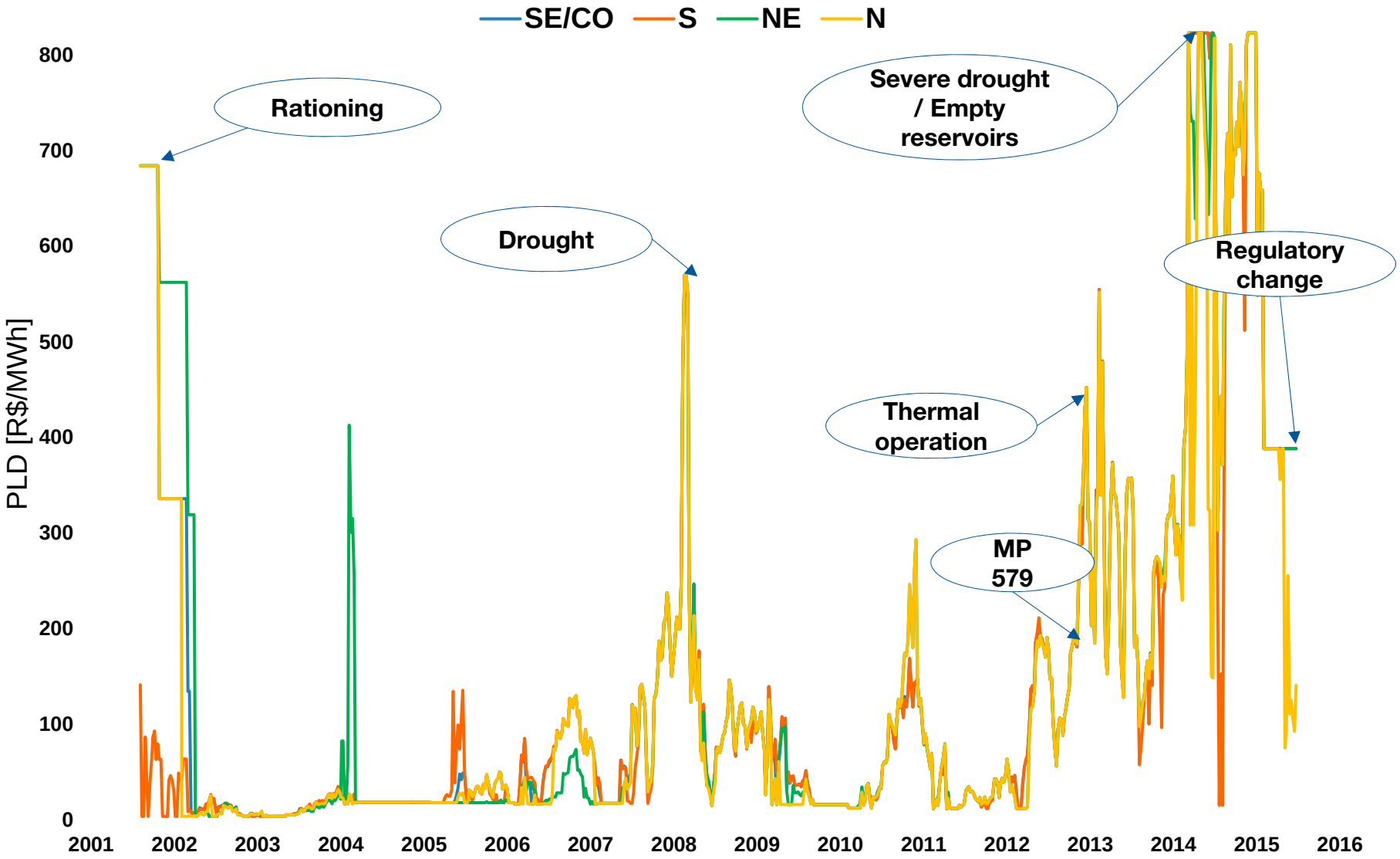


Biomass: 3,5% CAGR
PCH: 3,3% CAGR
Wind: 26,2% CAGR
Solar: +3,5 GW

Source: EPE - PDE 2023

Electricity prices

Regulatory netting prices (PLD)



Source: CCEE (2015)

Main trends in Brazilian Electricity Industry

- Current electricity problems have to do with power supply constrains, not fast growing demand
- Moderate economic growth means capacity expansion of 5 to 6 GW annually
- Expansion must balance moderate energy prices, diversification of sources and reliability of supply
- Each source has trade-offs: supply restrictions, social and environmental issues, risk profile.
- Auctions should be segregated by energy sources
  - Base: large hydro, thermal and wind
  - Complement: small hydro, biomass and solar and distributed generation

Non-renewables sources are important

Nuclear and Fossil Fuels (natural gas and coal)

Pros

- Reliable power supply, accommodates other intermittent sources

Cons

- Fuel supply is limited
- Fuel prices are denominated in U$
- High geopolitical risks
- Relevant GHG emissions and other environmental impacts
- Next Auctions
  - May 29 – specific natural gas
  - July 24 – open to all sources

Renewables sources are key

Hydro, biomass, solar and wind

Tractbel Tubarão (SC)

- WEG 2,1 MW turbine
- WEG EPC solar power plant with 3 MWp capacity

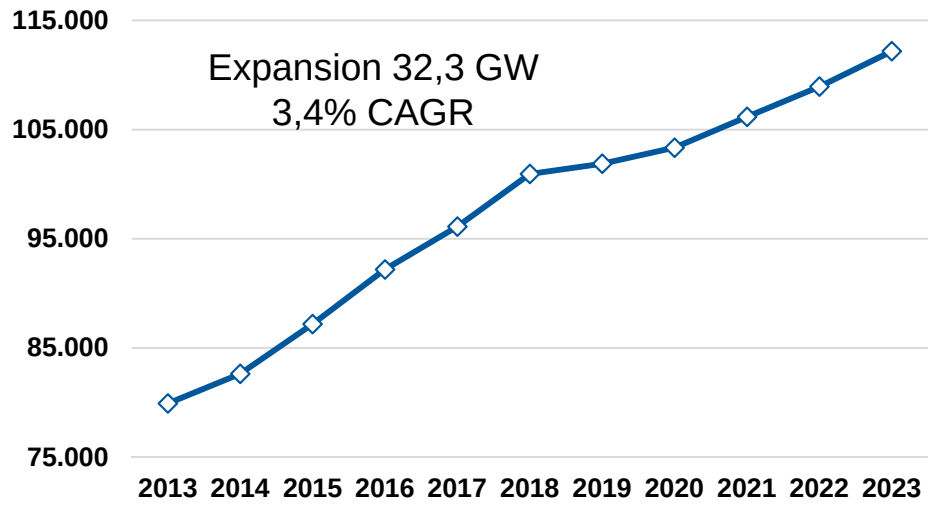
Pros

- Abundant resources, with low or no fuel costs
- Energy independency
- Generation capacity can be near consumption
- Manageable environmental impacts

Cons

- Weather related supply risks

Hydro power plants (UHE)



Source: EPE - PDE 2023

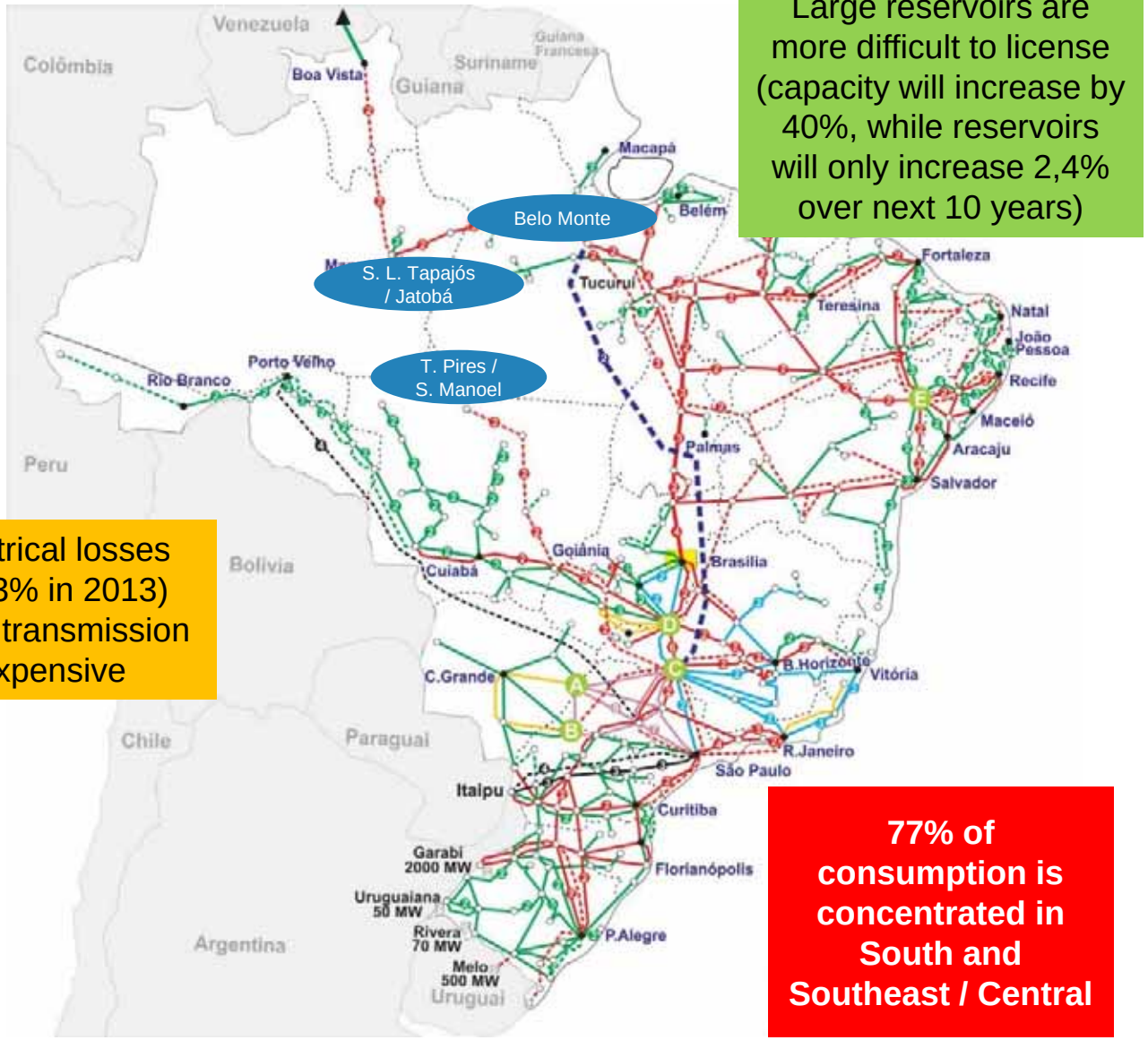
- Above 70% of current generation capacity, main source in Brazil
- Reservoirs work as energy storage
- 20 GW of mature projects and potential of 50 GW
- Prices at last auction
  R$ 100 / MWh

Hydro expansion in Brazil

Not without challenges

91% of expansion opportunities are located in the North

Large reservoirs are more difficult to license (capacity will increase by 40%, while reservoirs will only increase 2,4% over next 10 years)

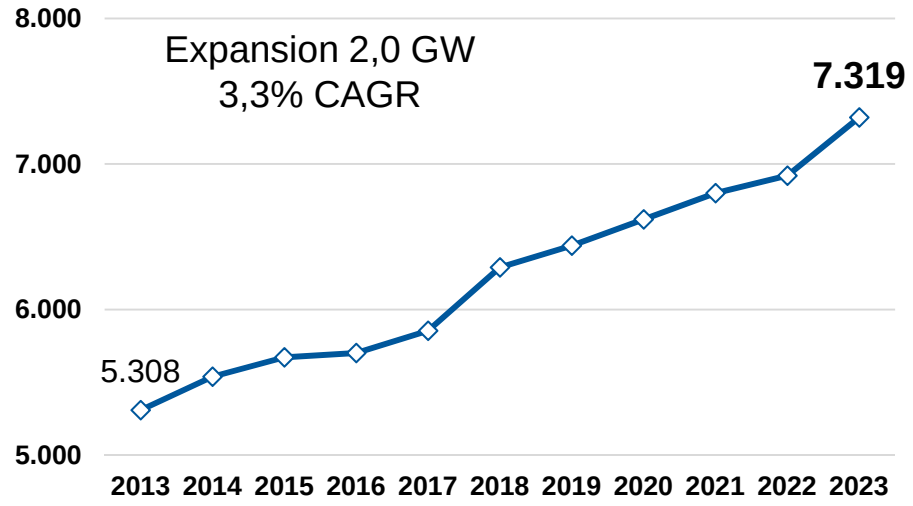


Electrical losses (15,3% in 2013) make transmission expensive

77% of consumption is concentrated in South and Southeast / Central

Source: ONS (2015)

Small hydro power plants (PCH)



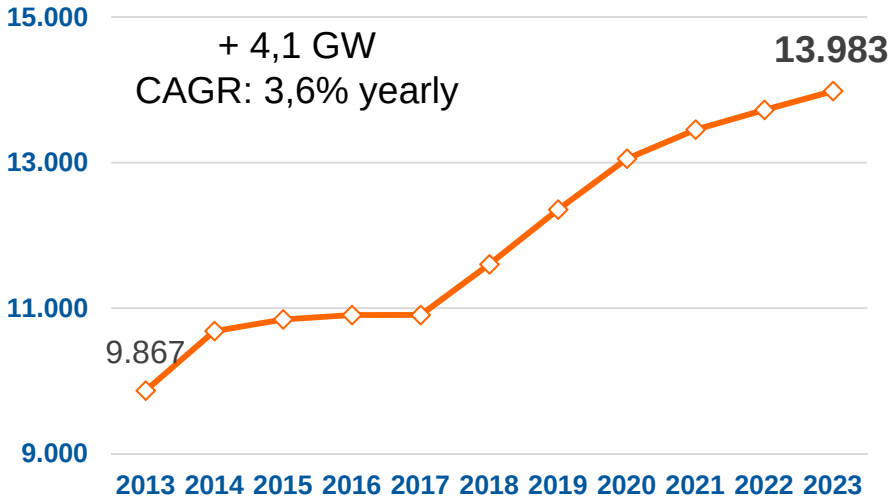
Source: EPE - PDE 2023

- PCH size / capacity are defined by regulation
- Geographically well-distributed around Brazil
- Proximity to consumption centers
- Lower environmental impacts (smaller reservoirs / flooded area)
- 10 GW of mature projects and potential of 120 GW
- Prices at last auction (2015):
  R$ 206 / MWh
- Next Auctions
  - July 24 – open to all sources

Hydro power at WEG

- WEG supplies:
  - Turbines up to 80 MW
  - Generators up to 150 MVA
  - Hydro-mechanicals
  - Electrical BoP
- Track record:
  - 4.025 MVA of generators
  - 1.018 MW of turbines and hydro-mechanicals
- 30% of small hydro sales in South America
- Scope covers 20-50% of the project capex

Thermal power plants with Biomass



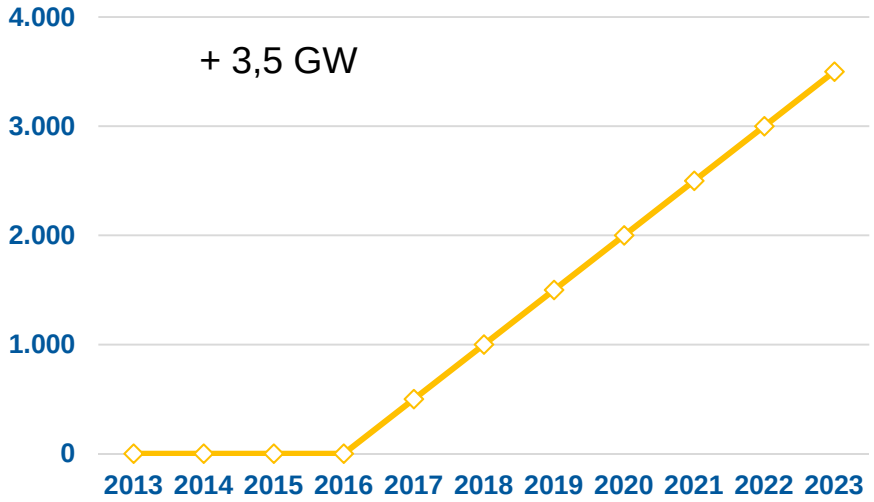
Source: EPE - PDE 2023

- Sugarcane bagasse, wood chips or other biomasses
- Fuel (biomass) is available near consumption (Southeast)
- Harvest season coincides with dry season
- Virtually zero net emissions
- Synergy with biofuels industry
- Last Auction (2015):
  R$ 272 / MWh
- Next Auctions
  - July 24 – open to all sources

Biomass thermal power at WEG

- WEG supplies:
  - Generators
  - Panels
  - Automation
  - Electrical BoP
- Track record:
  - 15.162 MVA installed
- Scope covers 35% of the project capex

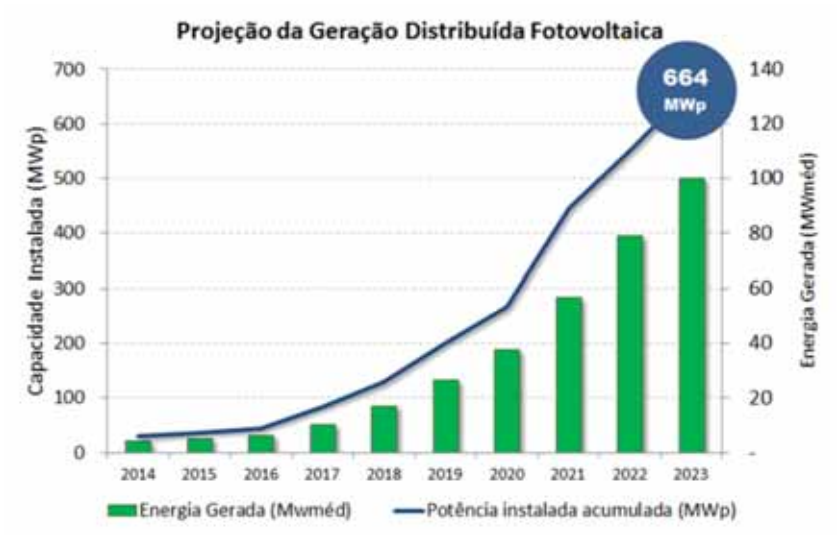
Solar power plants



Source: EPE - PDE 2023

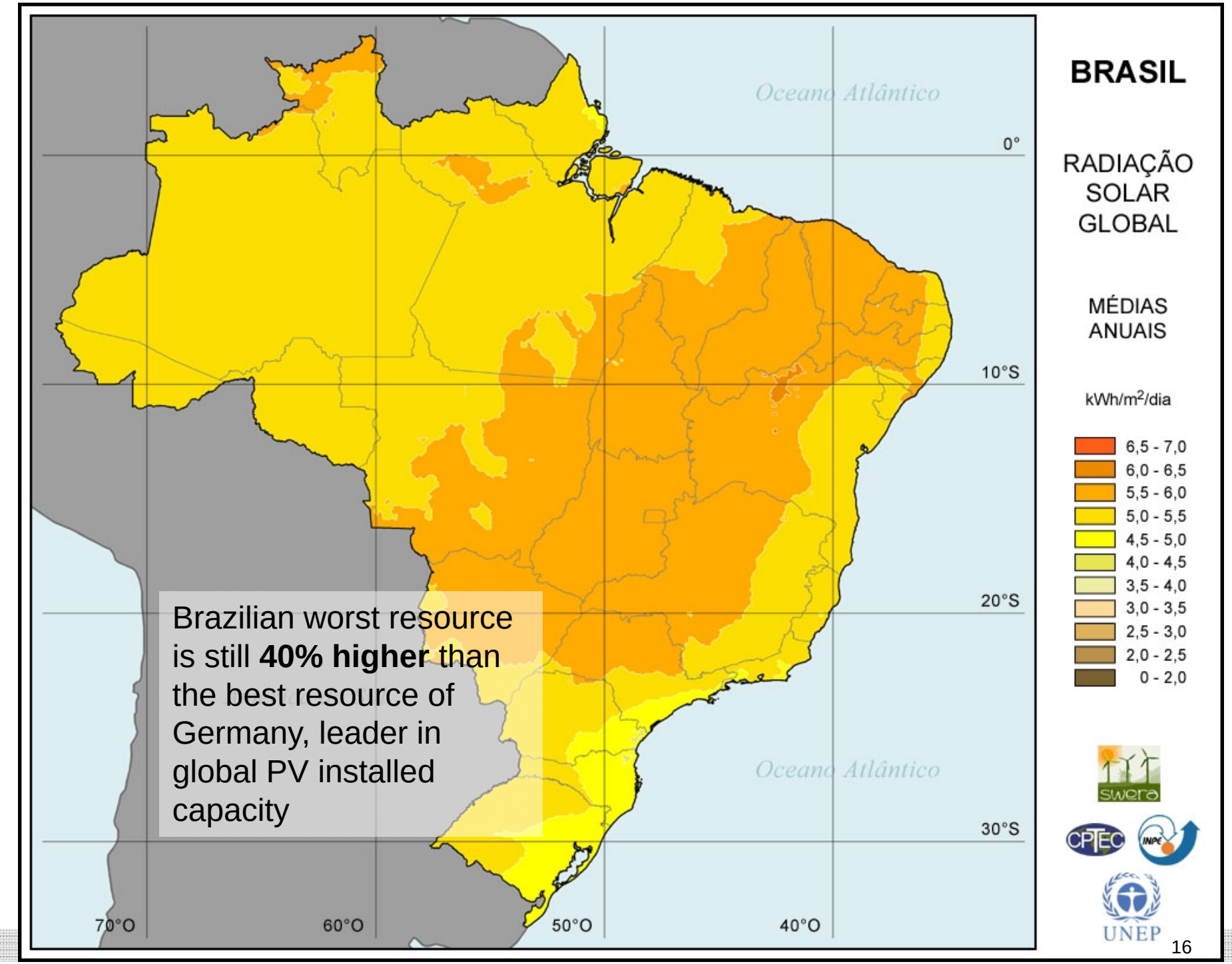
- Syncs with residential peak demand
- Brazil has one of world's largest potential
- Largest global growth rate in the last 5-years
- Last Auction (2014):
  R$ 215 / MWh
- Next Auctions
  - August 14 – specific solar
  - November 13 – solar and wind (separate)

Solar distributed generation



Source: EPE - PDE 2023

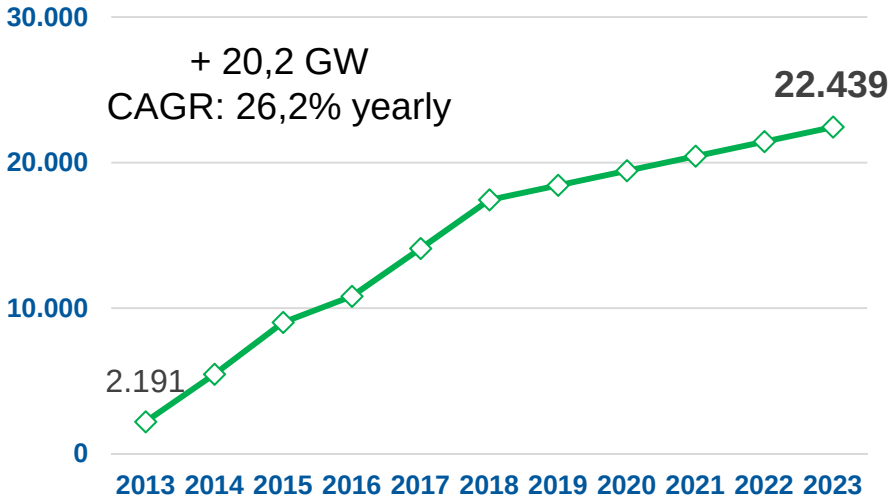
- Net-metering according to ANEEL's resolution REN482/2012
- Modular and flexible solutions
- Applicable from homes to small industries, hotels, and shopping malls
- 1 m² generates around 20 kWh
- Hedging against utilities electricity prices
- Sustainability appeal


BRASIL
RADIAÇÃO SOLAR GLOBAL
MÉDIAS ANUAIS
kWh/m²/dia
6,5 - 7,0
6,0 - 6,5
5,5 - 6,0
5,0 - 5,5
4,5 - 5,0
4,0 - 4,5
3,5 - 4,0
3,0 - 3,5
2,5 - 3,0
2,0 - 2,5
0 - 2,0
Oceano Atlântico
Oceano Atlântico
0°
10°S
20°S
30°S
70°O
60°O
50°O
40°O
Brazilian worst resource is still **40% higher** than the best resource of Germany, leader in global PV installed capacity
swera
CPTEC
INPE
UNEP

Solar photovoltaic generation at WEG

- WEG supplies:
  - Inverters
  - String boxes
  - Automation
  - Electrical BoP
  - EPC services
- Track record:
  - 6 MWp installed
- Scope covers 15 - 100% of the project capex

Wind power plants

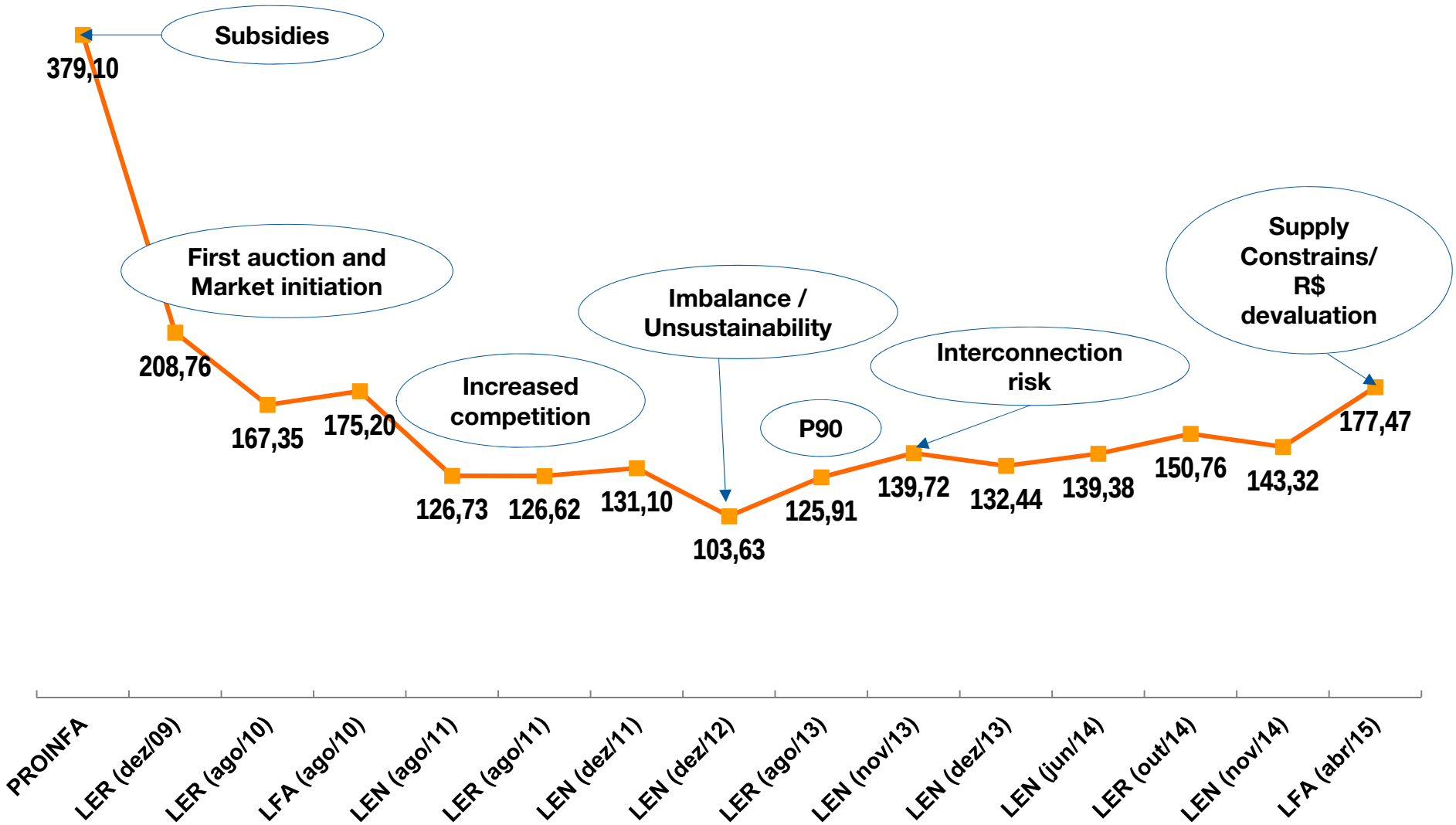


Source: EPE - PDE 2023

- Currently mapped potential mainly in Northeast and South
- Complementary to hydro power
- 18 GW of mature projects and potential of 300 GW
- Very competitive prices
- Last Auction (2015):
  R$ 177 / MWh
- Next Auctions
  - July 14 – open all sources
  - November 13 – solar and wind (separate)

Wind generation prices at official auctions

Average R$/MWh



Wind power distributed generation

- Net-metering according to ANEEL's resolution REN482/2012
- Applicable to small industries, hotels, hospitals, and shopping malls
- One unit generates approximately 20.000 kWh per month
- Hedging against utilities electricity prices
- Sustainability appeal

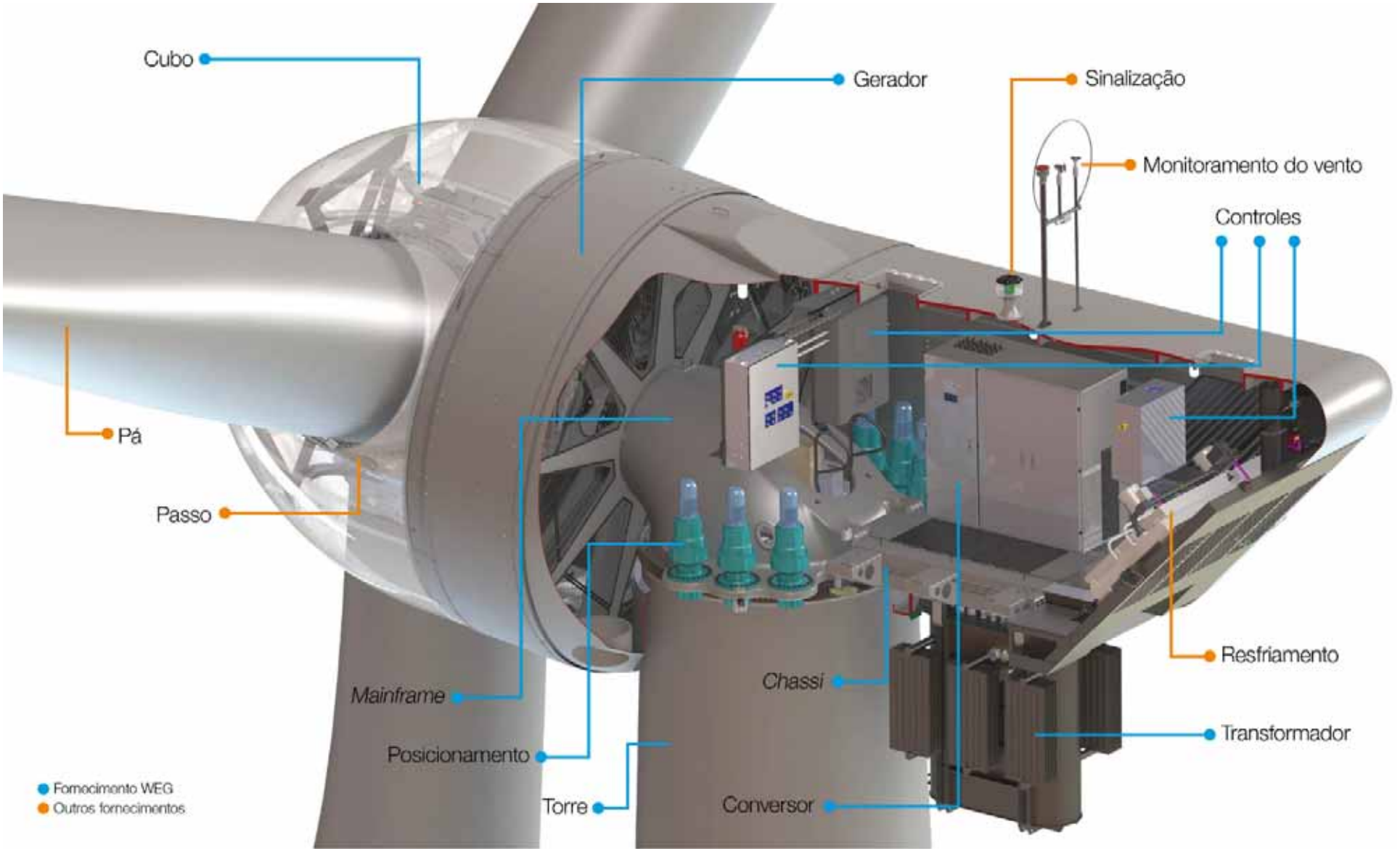
Wind power plants at WEG

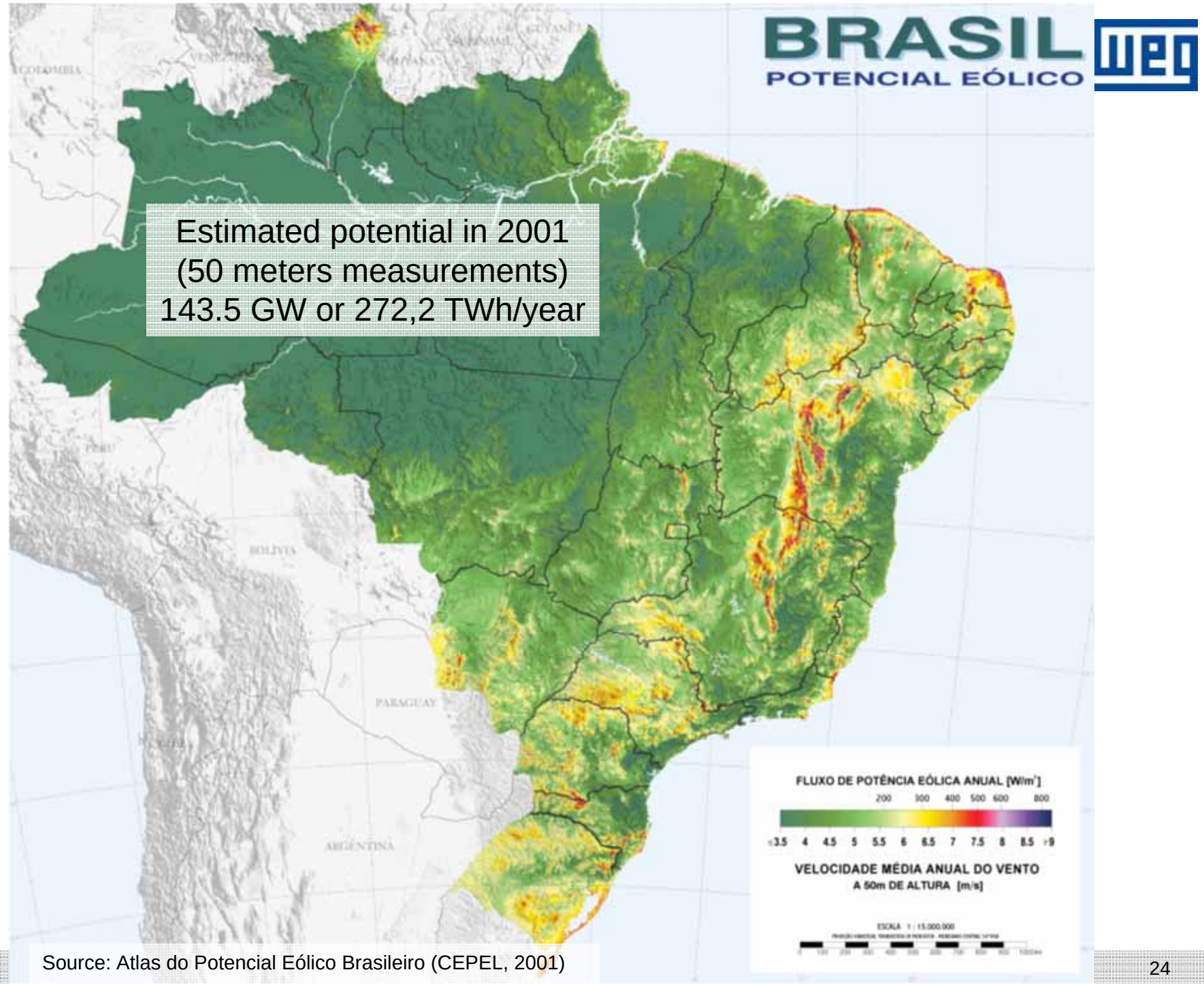
- WEG supplies:
  - Wind turbines
  - Operation and Maintenance (O&M) services
  - Electrical BoP
- Track record:
  - 24 wind turbines / 50,4 MW
- Scope covers 75-85% of project capex
- Main current customers:
  - Copel
  - Servtec
  - Alupar
  - CEEE

WEG Wind Turbine

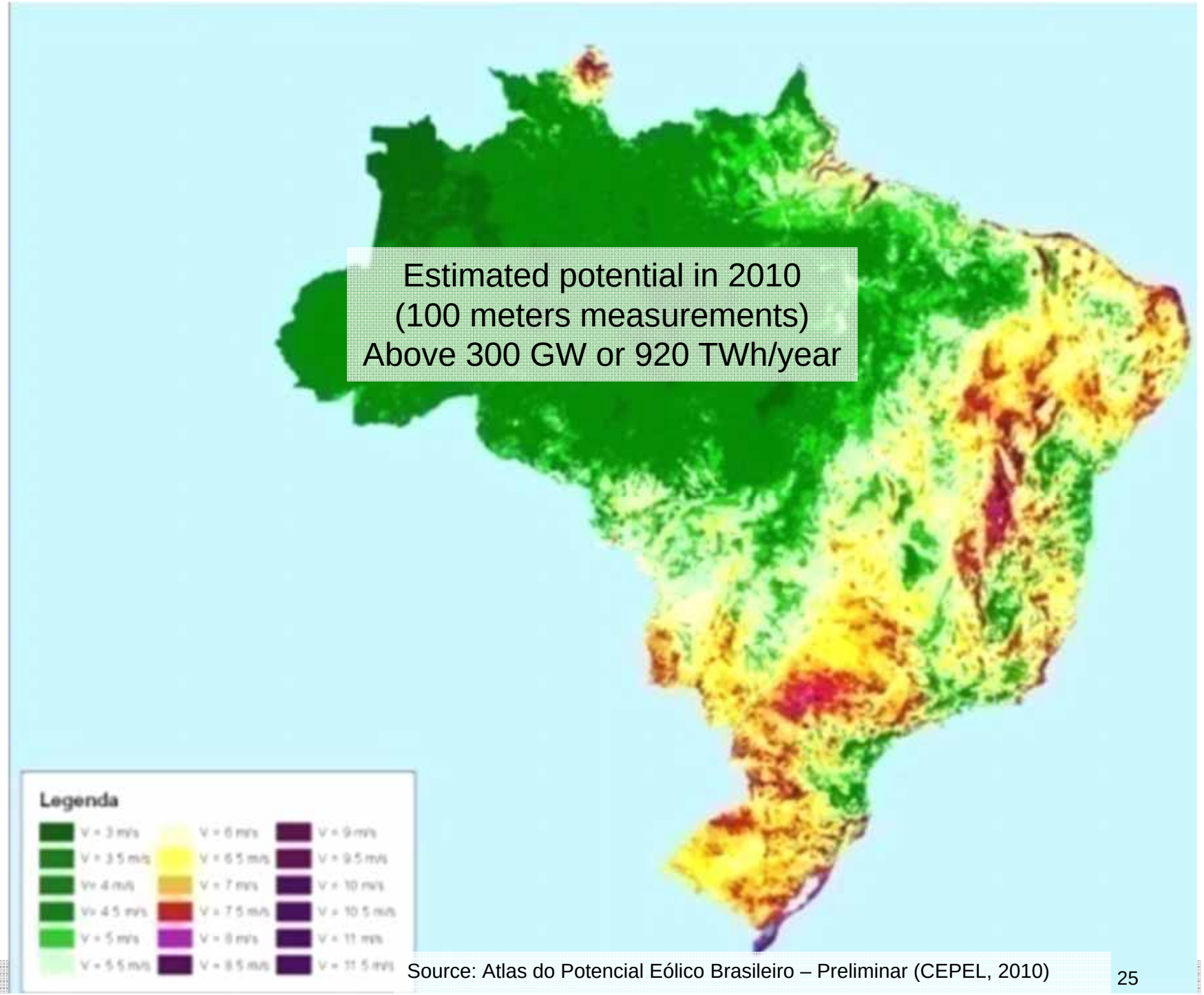
- 2,1 MW with a 110 m rotor diameter and up to 120 m tower height
- Concept of reliability and availability translates to value creation
- Gearless technology equals low-maintenance
- High efficiency permanent magnet generator design, powered by WEG electrical equipment tradition
- Full-converter for smooth grid integration
- Maintenance-friendly assured by modular components and ergonomic features

WEG Wind Turbine





Source: Atlas do Potencial Eólico Brasileiro (CEPEL, 2001)



Source: Atlas do Potencial Eólico Brasileiro – Preliminar (CEPEL, 2010)