TRANSFORMERS MAGAZINE'S
INDUSTRY NAVIGATOR

INVESTMENTS, ARTIFICIAL INTELLIGENCE AND SUSTAINABILITY

CONFERENCE 2024

REGENERA™ RIS Bushings

INNOVATIVE ECO-FRIENDLY SOLUTIONS
for Sustainable Transmission Systems

TRENCH

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AGENDA

1. Sustainability and Energy Transition Outlook: Navigating Sustainability Trends
2. Trench Group: Transformative Sustainability Journey and Innovative Portfolio
3. REGENERA™ RIS Bushings

1 SUSTAINABILITY AND ENERGY TRANSITION OUTLOOK

THE KEY PIECE IN THE ENERGY TRANSITION

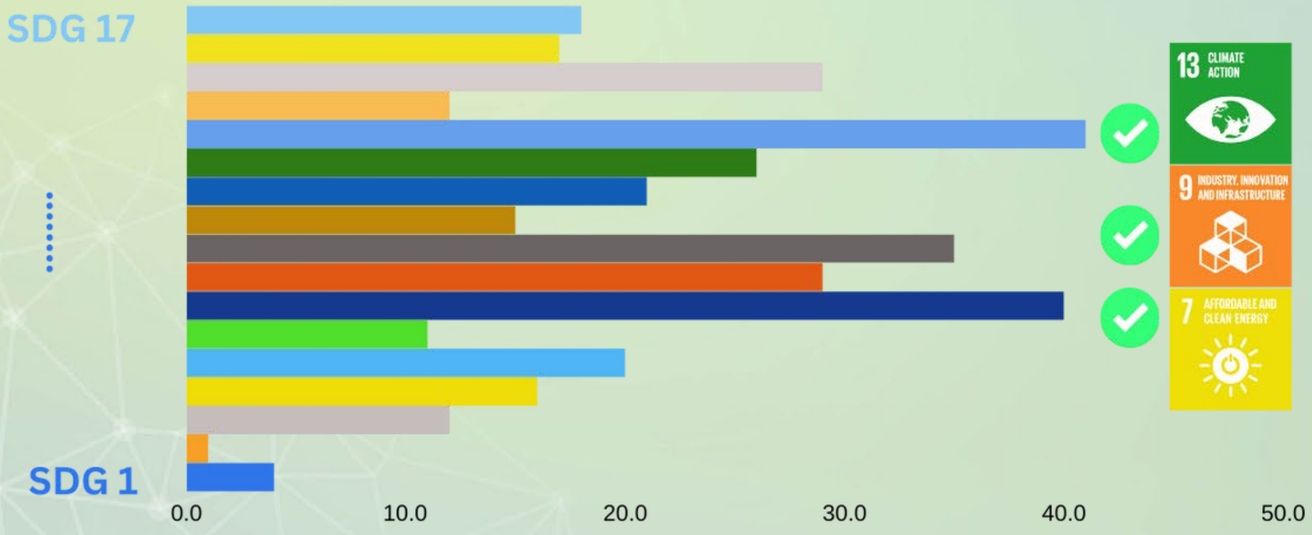
- Climate Change
- Electrification
- Renewable Energy Generation
- The Key Piece?

Sustainable Transmission Systems & Components

NAVIGATING SUSTAINABILITY TRENDS

Analysis of more than 50 TSOs and OEMs globally 1)

Top 3 SDGs



Around 50% of the TSOs and OEMs globally committed to Net Zero in Scope 3 by 2050 1)

1)Trench Group's Research: Analysis of 50 companies, 2023

2 TRENCH GROUP TRANSFORMATIVE SUSTAINABILITY JOURNEY AND INNOVATIVE PORTFOLIO

ABOUT TRENCH GROUP: OUR NUMBERS

EXPLORE THE IMPACT OF OUR GROUP, DISCOVER OUR ACHIEVEMENTS, GROWTH AND COMMITMENT THROUGH OUR KEY FIGURES.

120 YEARS
OF EXPERIENCE

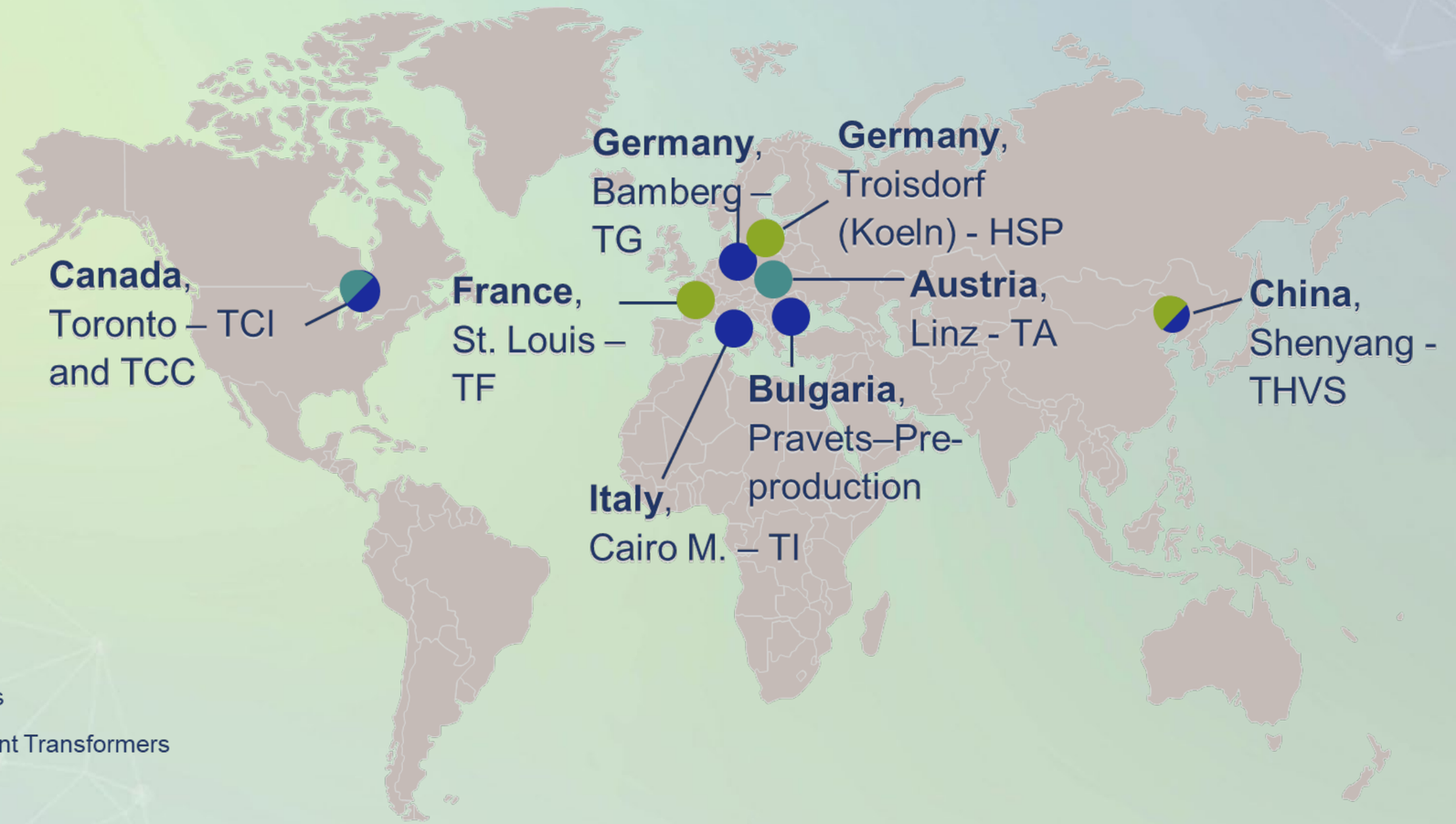
2400+
employees

7 TRENCH
+ 1 HSP FACTORIES

>1000000
PRODUCTS OF THE
3 LINES DELIVERED

>40% REGENERA™
Products
delivered in FY23

ABOUT TRENCH GROUP: OUR GLOBAL PRESENCE



OVER 120 YEARS OF HISTORY

1893 — Creation of Meirowsky & Co. in Cologne

1919 — First paper oil instrument transformers invented by Scarpa e Magnano in Italy

1937 — Emil Haefely was granted a patent on the first oil-impregnated condenser type bushings

1962 — Tony Trench invents the world's first dry-type reactor

1989 — HSP Pioneering high voltage. Conversion of bushings business unit into HSP

1990 — Trench Electric merges with Spezielektra

2004 — Acquisition of Trench by Siemens

2019 — New management team

2021 — REGENERA™ Start of Regenera™ product line

2024 — Successful completion of carve-out from Siemens Energy

TRENCH
Sense the Power

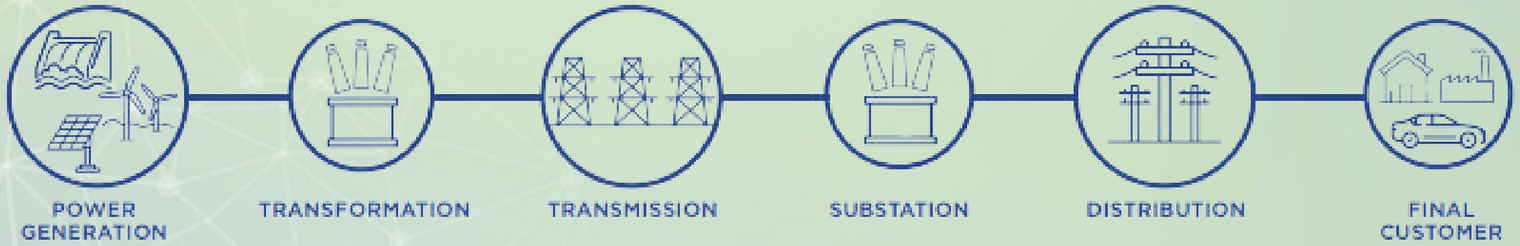
OUR APPROACH

Our Vision

We aim to leave a powerful and respectful footprint in the market we lead and in the world we live in.

Our Mission

We support our business partners from power generation through transmission and distribution to the electricity consumers, in their transition to a greener future by offering the most complete, advanced, and sustainable portfolio of life-changing high voltage products and solutions.



PRODUCTS AND SERVICES

INSTRUMENT TRANSFORMERS

- Accurate voltage measurement
- Efficient metering protection
- Renewable energy integration
- Grid stability assurance

BUSHINGS

- Ensure reliable connection
- Safe HV power
- Advanced insulation technologies
- Extreme condition performance

COILS

- Reduce energy losses
- Lower fault currents
- Enhance system reliability
- Increase transmission capacity

SERVICES

- Installation and commissioning
- Maintenance services
- Comprehensive Testing
- Spare parts
- Recycling

OUR SUSTAINABILITY APPROACH: REGENERA™

REGENERA™ is a transformative journey reshaping our business culture in a SUSTAINABLE way.

PRODUCT DESIGN

- Eco-friendly materials
- Non-toxic components
- Biodegradable options
- Minimized environmental footprint

MONITORING

- Life Cycle Assessments
- ISO 14040/14044, ISO 14067, EN 15804 compliant
- Enabling transparent environment footprint

COMPENSATION

- Partnership with Treedom
- Internal Tree Planting Initiatives

MANUFACTURING

- 100% renewable electricity
- Solar panel installation
- LED lighting implemented
- Water conservation measures, etc.

RECYCLING

- Responsible Recycling Program in Trench France
- OIP Busings and Instrument Transformers

AWARENESS

- Elevate awareness
- Showcase REGENERA® products
- Highlight key initiatives
- Engage all stakeholders

REGENERA™ Products: Empowering UN SDGs

REGENERA™ Products address the highest-rated SDGs of TSOs and OEMs

- Key role in the energy transition
- Support electricity transmission from non-fossil energy sources

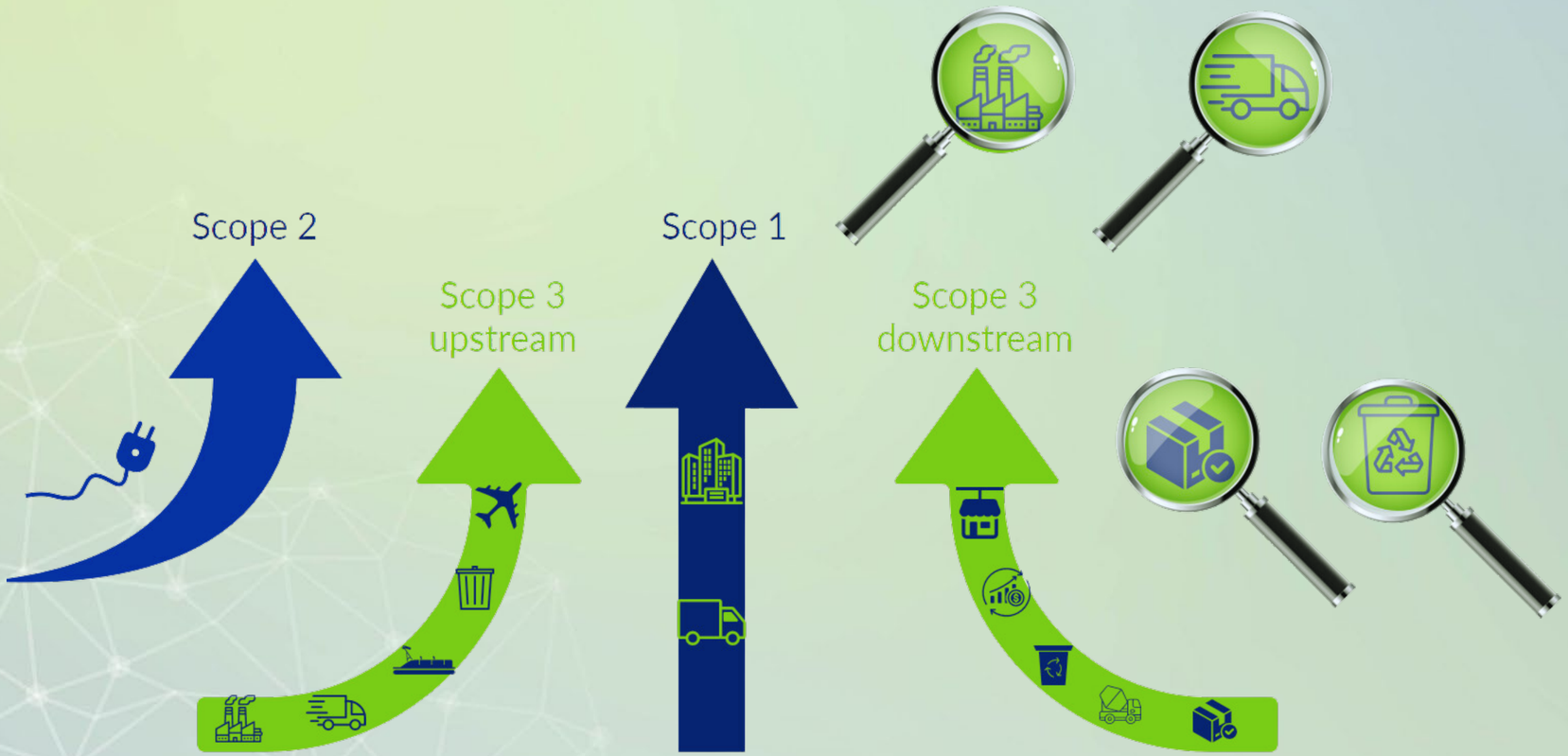
- Less energy-intensive manufacturing
- Eco-friendly materials
- Reduced environmental impact
- Promote responsible consumption

- Innovative design
- Advanced technologies
- Resilient infrastructure development
- Foster innovation within the energy sector.

- Mitigate climate change with:
- Eco-friendly design
- Reduced energy losses in operation

REGENERA™ PRODUCTS: IMPACT ON SCOPE 3

REGENERA™ Products play a vital role in reducing emissions within Scope 3, aligning with TSOs and OEMs' ambitions for achieving Net Zero



SCOPE 3 UPSTREAM

- Emissions from manufacturing the product (cradle to gate)
- Emissions from transporting the product to the customer's site

SCOPE 3 DOWNSTREAM

- Emissions from the operational losses that occur in the product
- Emissions from EOL treatment of the product

3 REGENERA™ RIS BUSHINGS

BUSHINGS: STRATEGIC COMPONENT OF POWER TRANSFORMERS

- Power transformer - key element of the transmission system
- Power transformer - asset with highest cost and technical risk
- Bushings - crucial part of power transformer reliability
- Bushing cost << transformer cost

REGENERA™ RIS BUSHINGS: KEY FEATURES

Resin Impregnated Synthetic (RIS) Transformer Bushings utilizing resin impregnated synthetics insulation provide an eco-friendly and safe connection of HV power to the transformer with our proven HSP design and highest reliability.

RIS TRANSFORMER BUSHING

Up to 550kV / 6000A

Eco-friendly, safe HV power connection

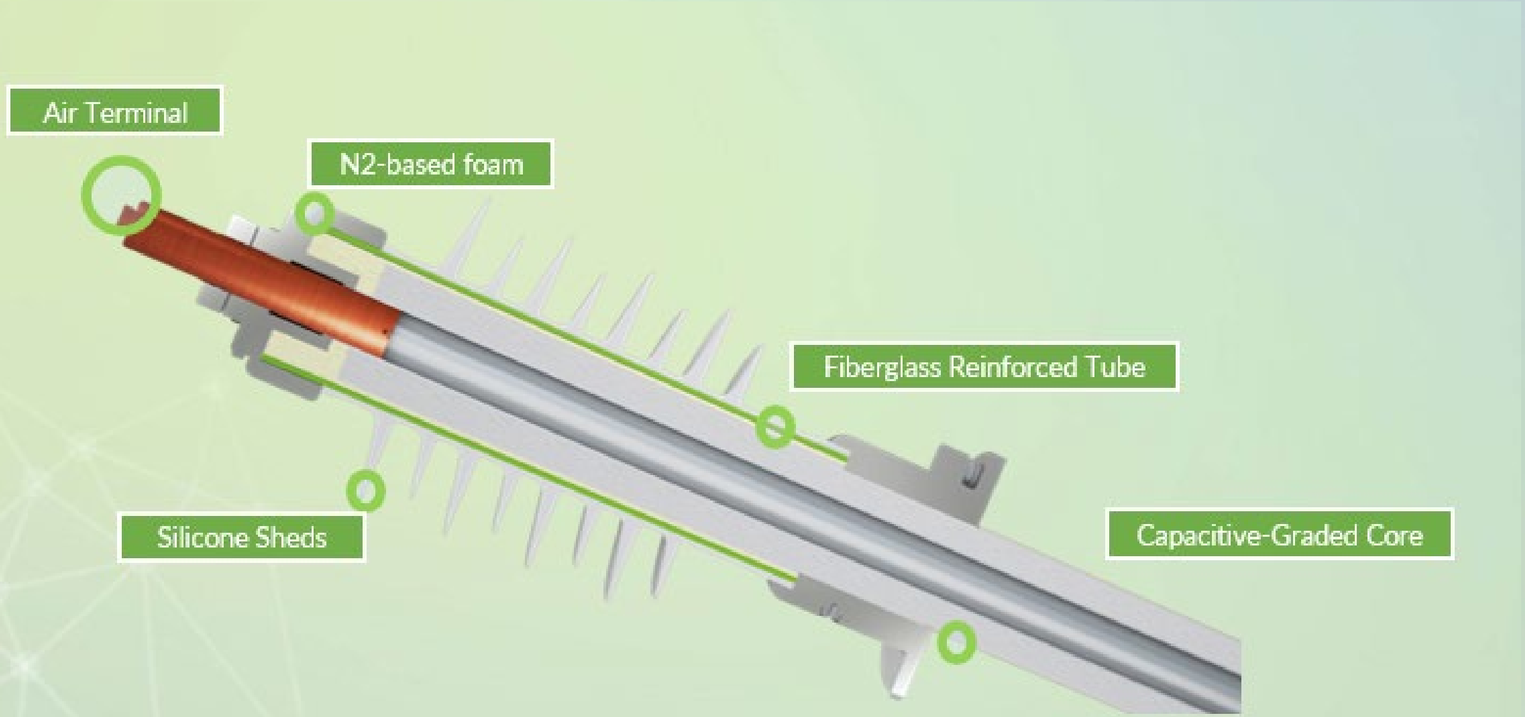
Proven HSP design, highly reliable

Characteristics:

- Outdoor applications (fluid-to-air)
- Composite insulator (fiberglass tube, silicone sheds)
- Fine-graded condenser cores
- Fully type-tested (IEEE/IEC standards)

REGENERA™ RIS BUSHINGS: ZOOM IN

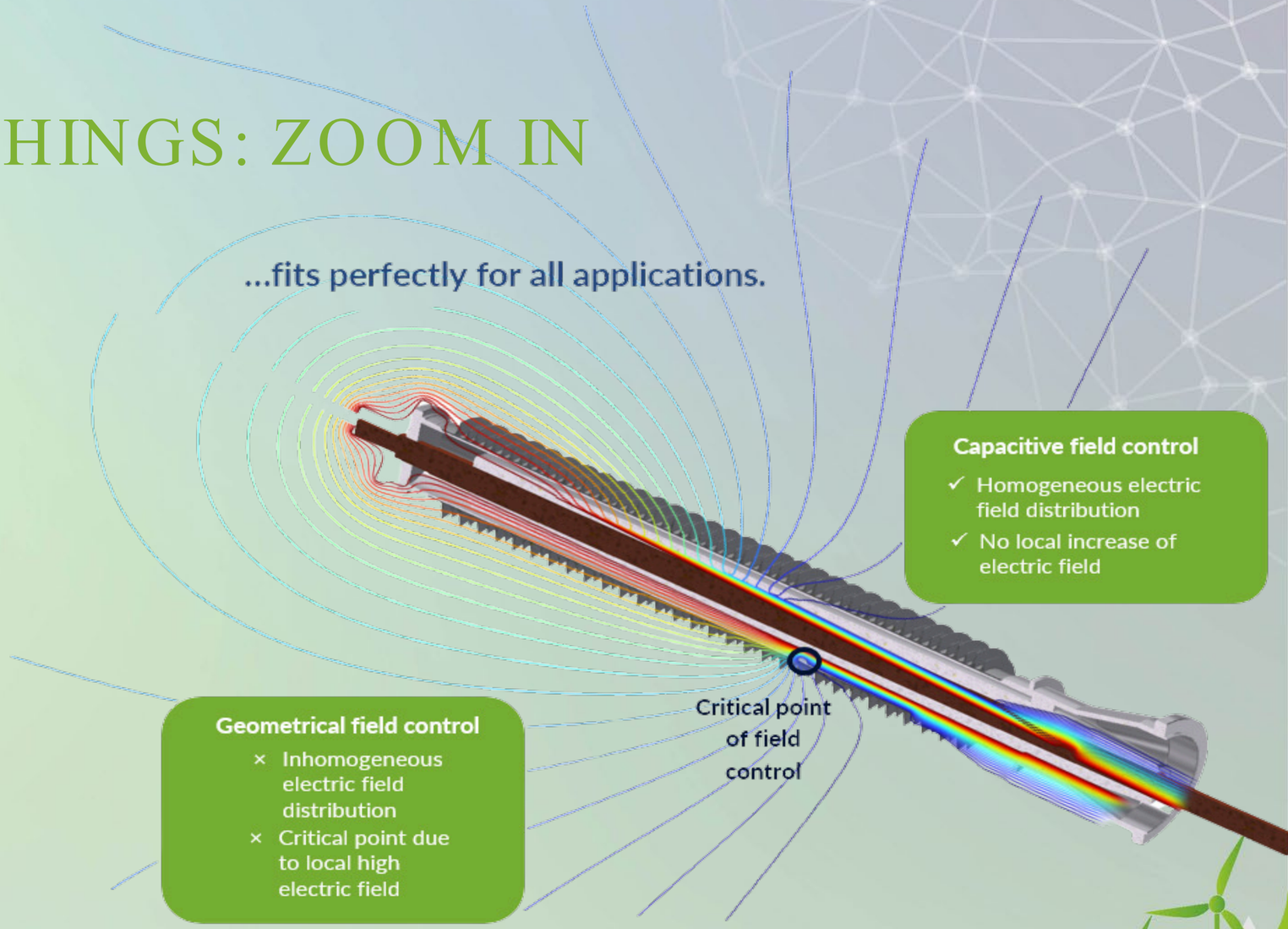
PROVEN AND ROBUST DESIGN ...fits perfectly for all applications



REGENERA™ RIS BUSHINGS: ZOOM IN

VALUE CONDENSED TO THE CORE

- Integrated conductive layers to enable homogenous field strength distribution
- Insulation body consisting of resin, aluminum layers and synthetic fleece
- N2 based foam as secondary insulation without oil or SF6



REGENERA™ RIS BUSHINGS: EMPOWERING PEAK PERFOMANCE

Designed for 40 years lifetime
- Using condition-based assessment

No oil, no paper
- Proven design with vacuum impregnated synthetic insulation

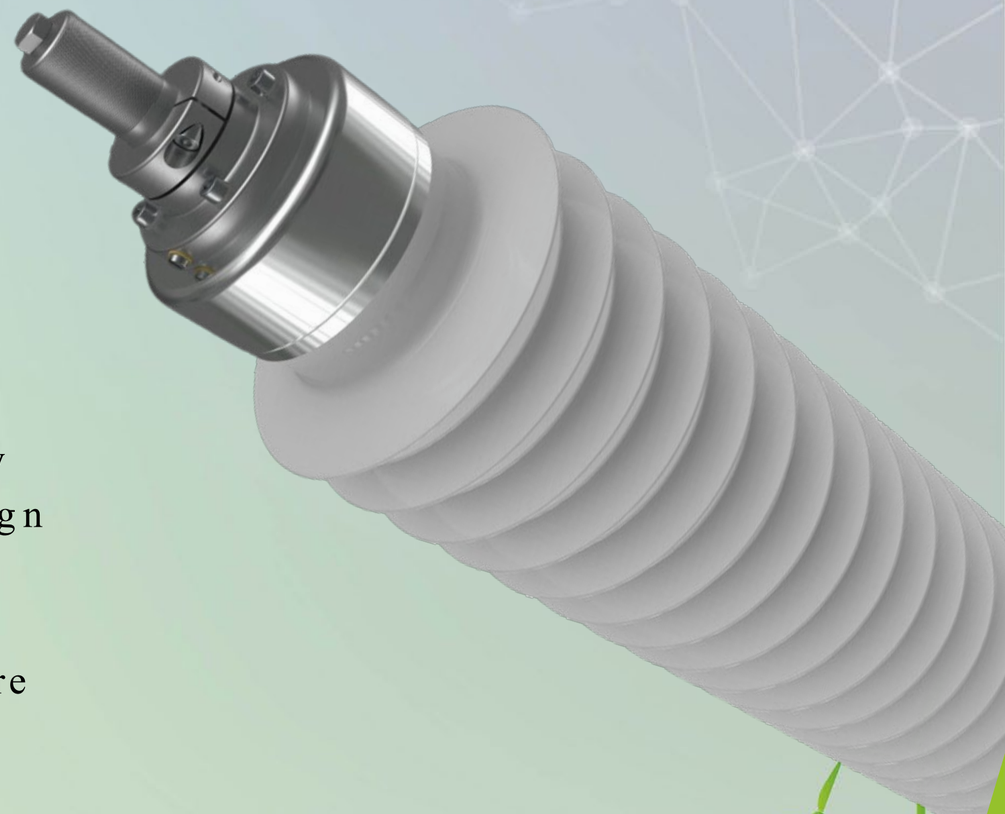
High resistance to humidity
- Non-hygroscopic material

Low dissipation factor and no PD
- Homogenous material characteristics – no voids

Explosion-resistant
- No porcelain, non-flammable

High current/overload capability
- By enhanced materials &design features

Suitable for ambient temperature
- -60°C to 50°C



REGENERA™ RIS BUSHINGS: APPLICATIONS

In Service Performance

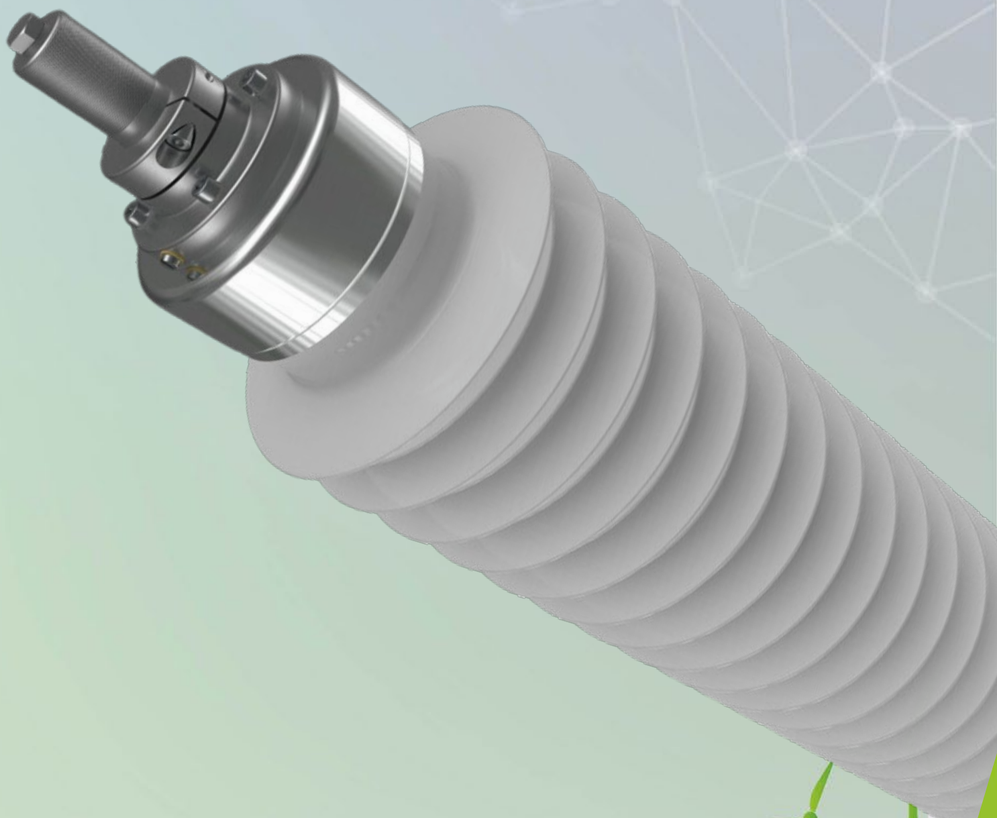
HSP RIS bushings offer enhanced mechanical strength and are explosion proof; they also offer extended overload capability.

Superior Technical Performance

HSP RIS Bushings offer the minimum operating costs and are maintenance free for their entire lifespan.

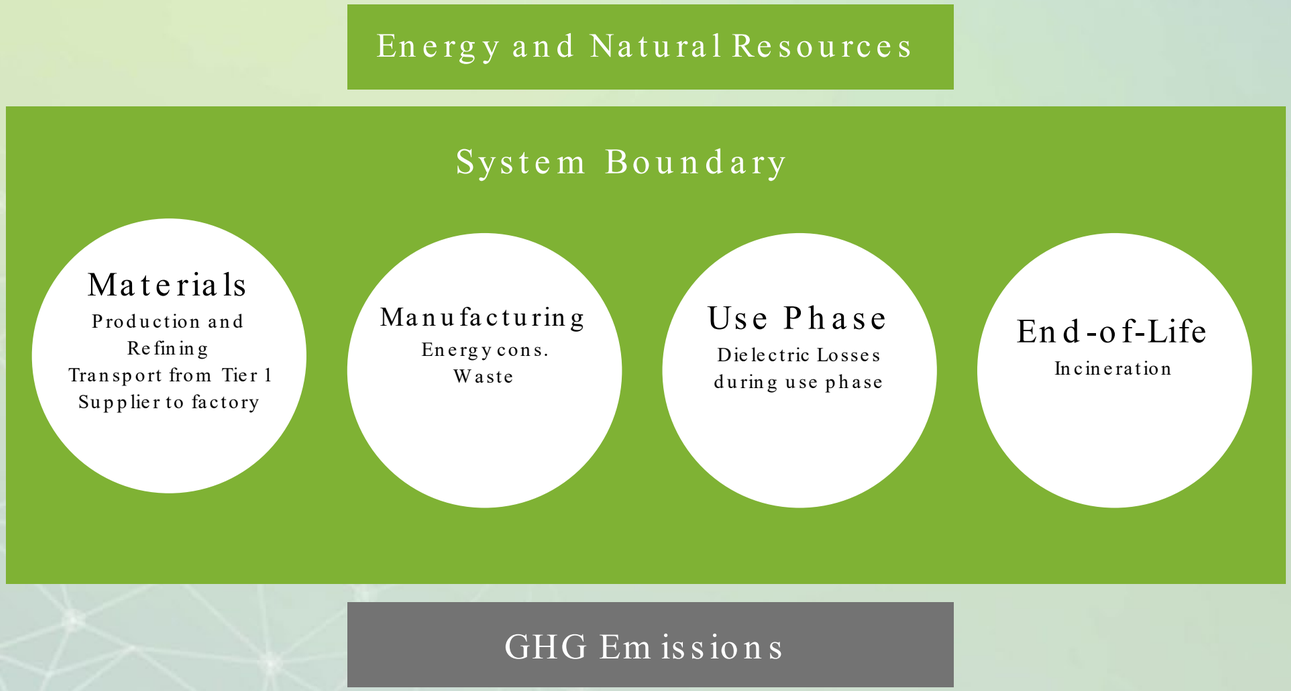
Easy Customization

High Voltage Bushings meet all international standards, e.g., IEC, IEEE etc., as well as specific customer requirements and are designed for easy installation.



REGENERA™ RIS VS RIP BUSHINGS:
CARBON FOOTPRINT COMPARISON BASELINE SCENARIO

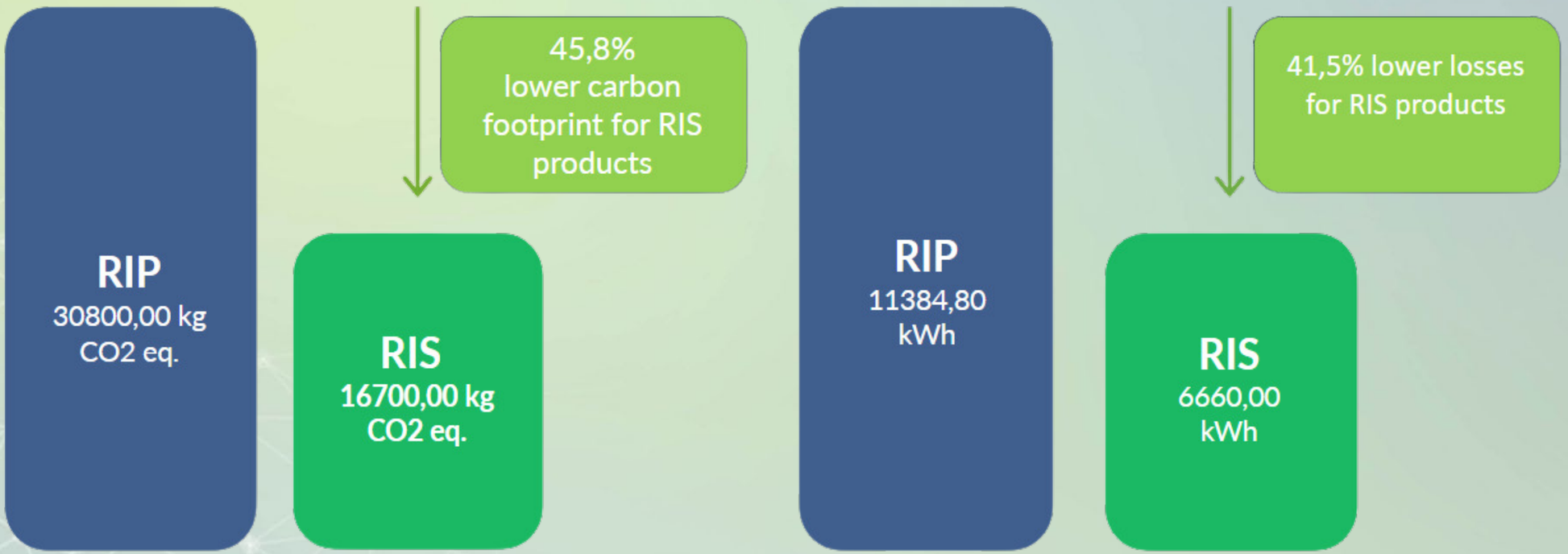
Definition of the System Boundaries



Baseline Scenario

- Products Compared: REGENERA® RIS and RIP Transformer Bushings
- Scope: Cradle to Grave
- According to EN ISO 14067
- 40 years in operation
- Realistic temperature based on average load of 70%
- The RIP values include a replacement after 30 years
- RIS with expected minimum lifetime of 40 years

REGENERA™ RIS VS. RIP BUSHINGS:
CARBON FOOTPRINT COMPARISON RESULTS



REGENERA™ RIS BUSHINGS: SUSTAINABILITY HIGHLIGHTS

- POWERING SUSTAINABILITY:
  ALIGNING WITH GLOBAL SDGS: 7, 9 & 13

- ECO-INNOVATION:
  NON-TOXIC MATERIALS, OIL AND GAS FREE DESIGN

- REDUCING EMISSIONS IN SCOPE 3:
  LOWER ENERGY LOSSES IN OPERATION

- LONGEVITY:
  40 YEARS LIFETIME

THE FUTURE OF ENERGY IS NOW AND IT'S EXTRAORDINARY

Robust and Optimized Design

- Engineered to withstand the test of time, ensuring unwavering reliability.

Peak Performance

- **Achieving unparalleled excellence, setting new standards in efficiency.**

Sustainability Performance

- Reducing the environmental impact and enabling sustainable transmission systems.

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THANK YOU FOR YOUR ATTENTION!

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