



TAPE
WEEK
2025

Paul Schwitter

PCF (Product Carbon Footprint) of self adhesive tapes

ATP adhesive systems AG

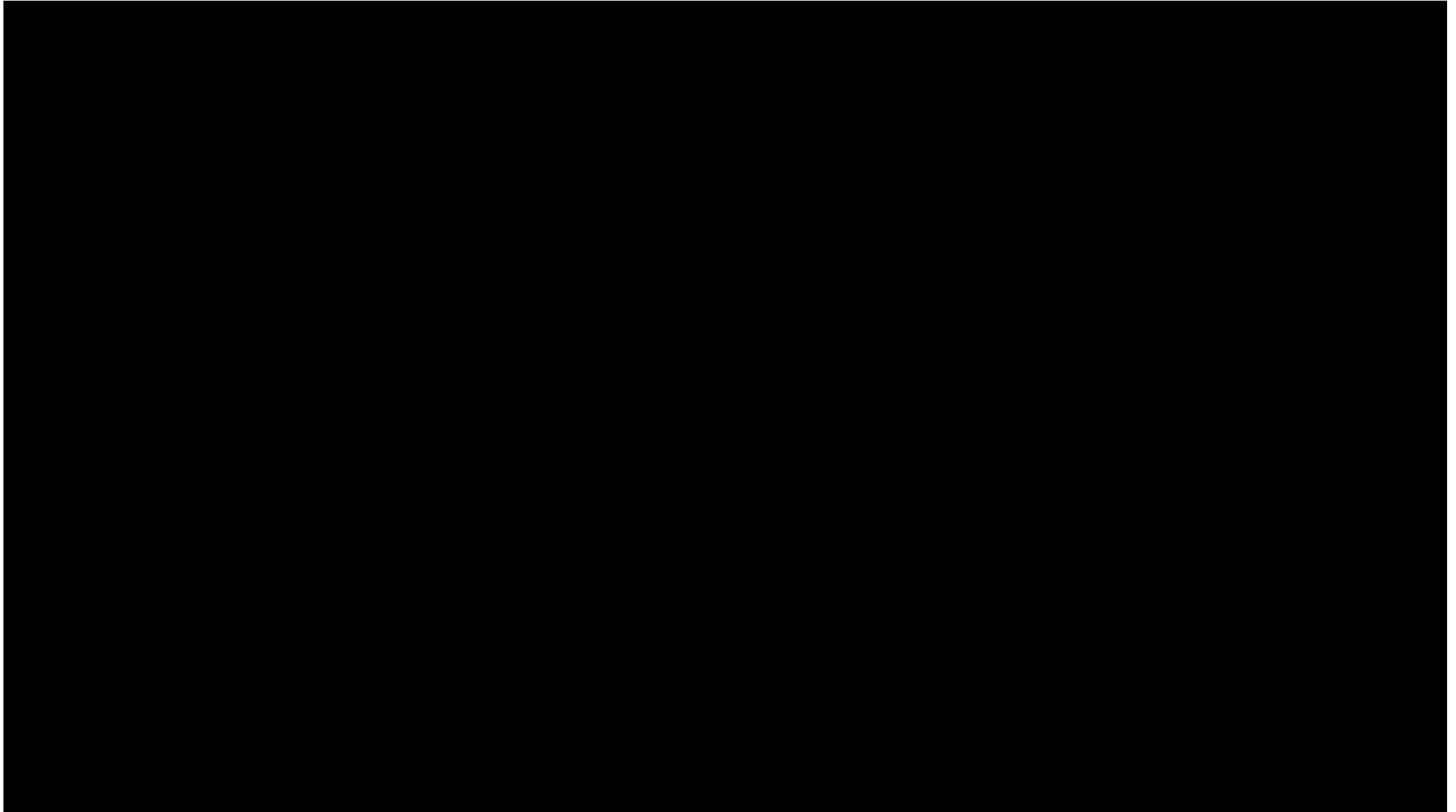


- ATP at a GLANCE
- SUSTAINABLE TOPICS
 - PCF – Product Carbon Footprint → Background
 - PCF → TACK TOOL
 - How can the PCF value be reduced in adhesive tapes?
- Environmental Production and Possibilities
- Advantages of environmentally Products in Applications
 - Construction
 - Automotive Interiors
 - Graphic Applications
- ATP NEWS in AMERICA





ATP VIDEO // ATP AT A GLANCE



Key Highlights



Global Leader
High Performance
Water-Based PSA Tapes



**Pioneer in Water-based
PSA Tapes**
With Decades of Adhesives
Formulation Know-how



> €250 MM
Net Revenues (2024)

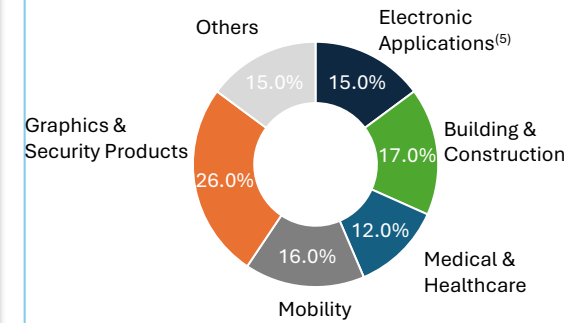


10% CAGR
Long-Term Historical Organic
Revenue Growth

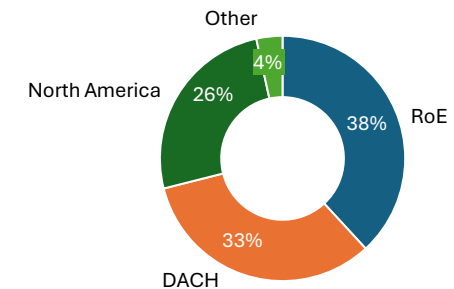


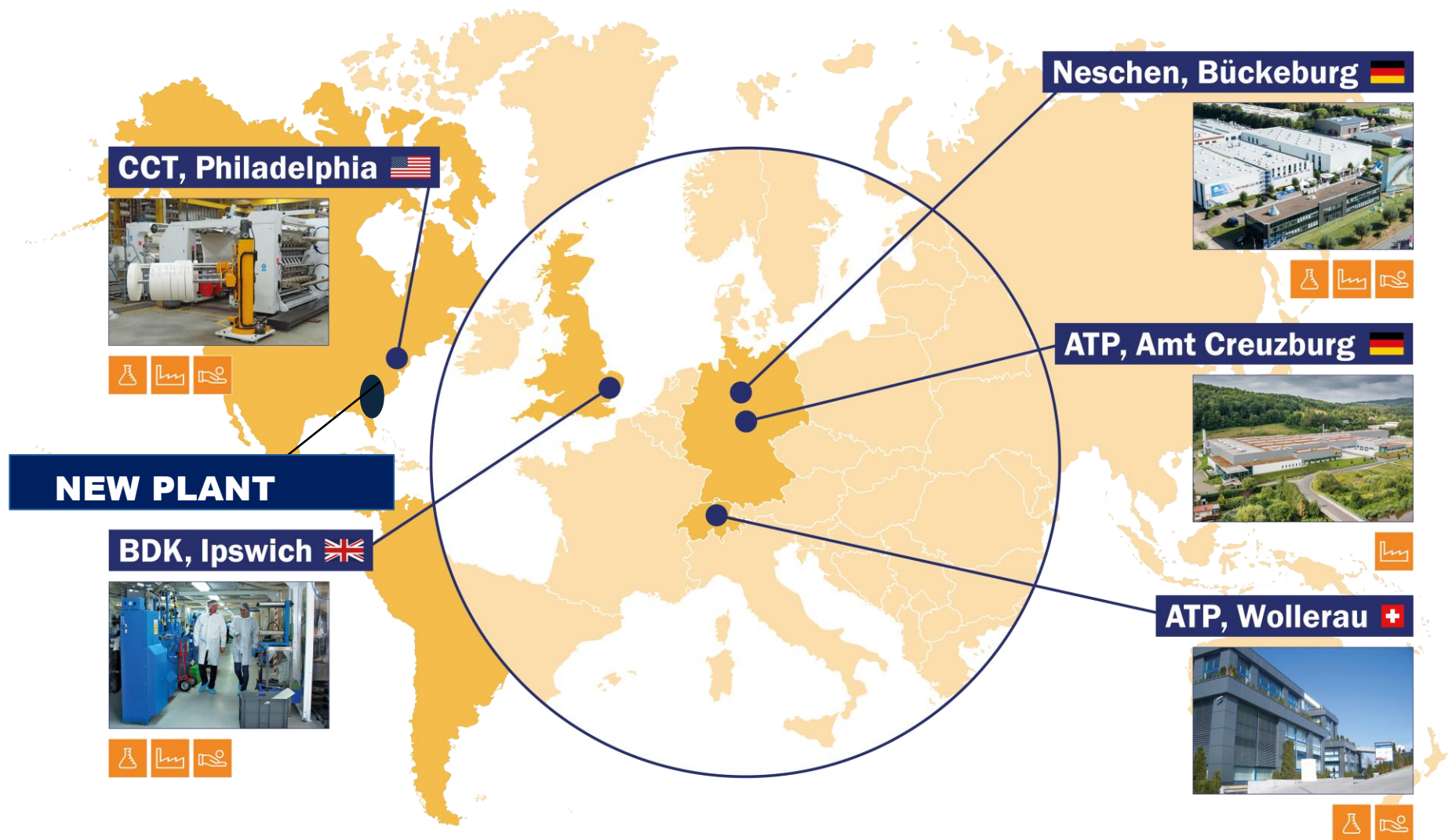
Revenue Breakdown

By Application Area



By Region







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What is a Product Carbon Footprint?

Defining Product Carbon Footprint (PCF): PCF quantifies total greenhouse gas emissions associated with a product throughout its life cycle.

Scope 1 Emissions: These direct emissions arise from owned or controlled sources during raw material extraction and production.

Scope 2 and 3 Emissions: Scope 2 relates to indirect emissions from purchased electricity, while Scope 3 encompasses supply chain impacts.



Together for Sustainability (TfS), a member driven initiative and global network of 50 chemical companies, delivers the de facto global standard for environmental, social and governance performance of chemical supply chains.

The TfS program is based on the [UN Global Compact](#) and [Responsible Care®](#) principles.



Sustainability
Evaluation
Framework

TfS coordinates the measurement of sustainability performance

Assess/ Audit suppliers regarding:

- environmental
- labor & human rights
- ethical
- sustainable procurement performance



Learn
&
Exchange

Exchange on:

- Sustainability related BDP's
- Share Expertise



Collaborate
for improvement

Collaborate and contribute to the active improvement of sustainability practices in the chemical supply chain

Work Stream Organizational Structure

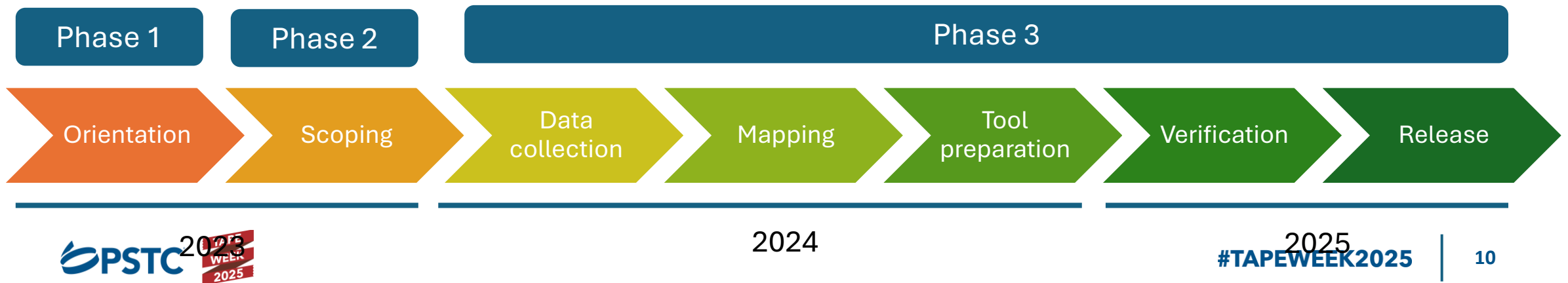
Collaborative calculation of PCF

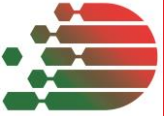


In early 2023, IVK and Afera started a project with Sphera to develop a tool to calculate PCF of adhesives and adhesive tapes

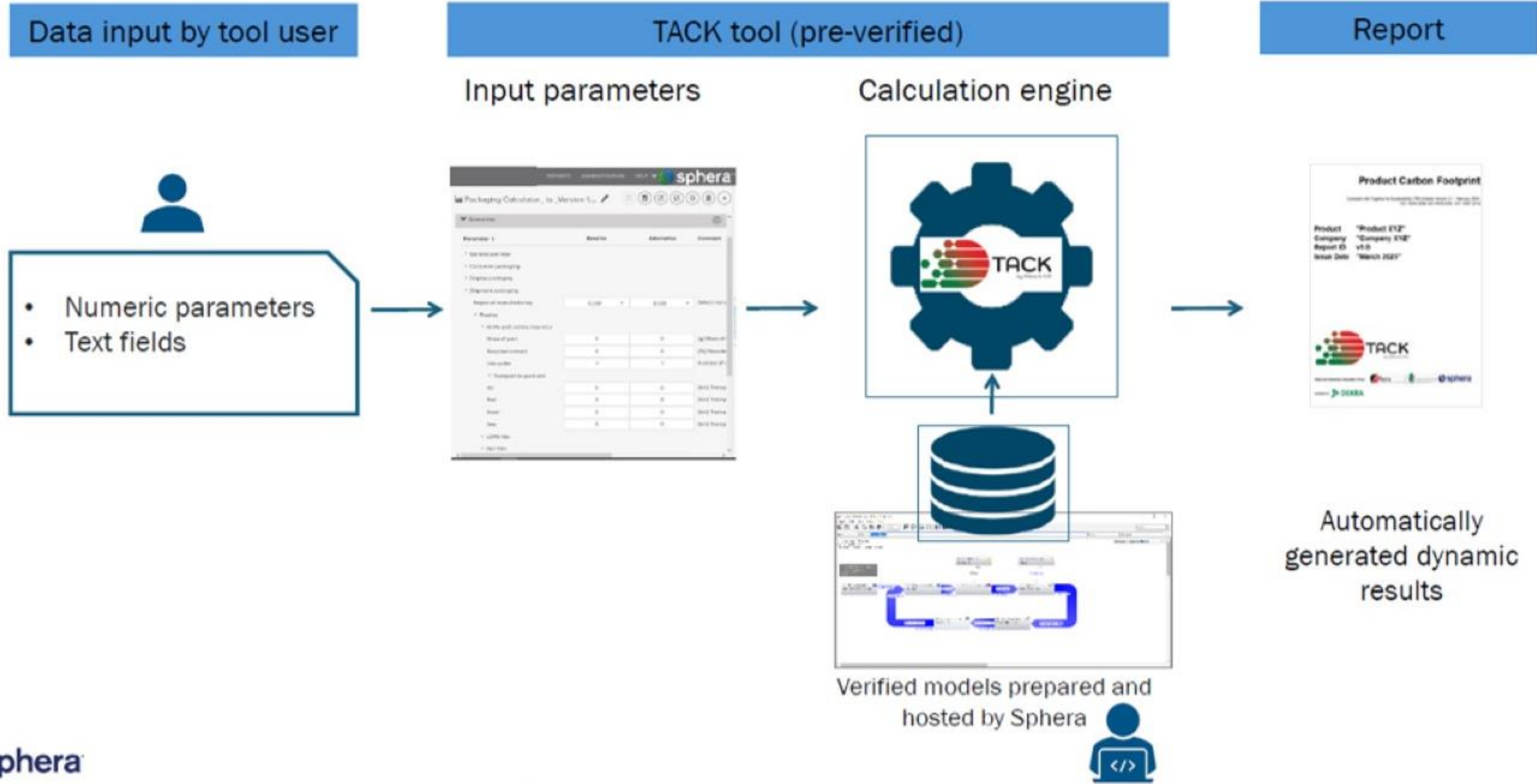


Tapes and **A**dhesives **C**alculation **K**it





TACK Workflow





Benefits of TACK

- **Enable user-friendly calculation of results:** Interactive report with integrated parameters allows dynamic calculation of PCF results within a click
- **Support communication:** the implementation of TACK methodology is third-party verified and therefore only the user input data needs to be verified before external communication of the results
- **Support eco-design & decision-making:** Variation of parameters and scenario analyses enables comparison of alternatives regarding raw material composition of products (e.g., different compositions and supplier specific data), as well as process optimization
- **Validated** calculation model based on internationally recognised standards: **ISO 14067, ISO 14040 and TfS**

Reference: [TACK](#)



INDUSTRY VOICES

- Sika, a leading specialty chemicals company active in the construction and transportation sector, also supports the development of the PCF tool as it aligns seamlessly with the Group's commitment to sustainability. Collaboration with suppliers plays a key role and this tool – equipped to deliver certified data – reinforces Sika's initiatives to enhance emissions transparency while bolstering the accuracy, consistency, and reliability of the Group's environmental data reporting.
- IKEA shared, *"Tack in Swedish means thank you, and I would like to express my thanks for your TACK, Afera and IVK's newly developed PCF calculation tool for adhesives and adhesive tapes. So, tack for TACK, because it will make our work easier! If we have your industry working on standardising the method of measuring LCAs, it will save a lot of time on this job of confirmation that we need to do inside our company."* She said that they have been in discussions with IVK for more than a year, so IKEA knows that they can use the data coming out of TACK.

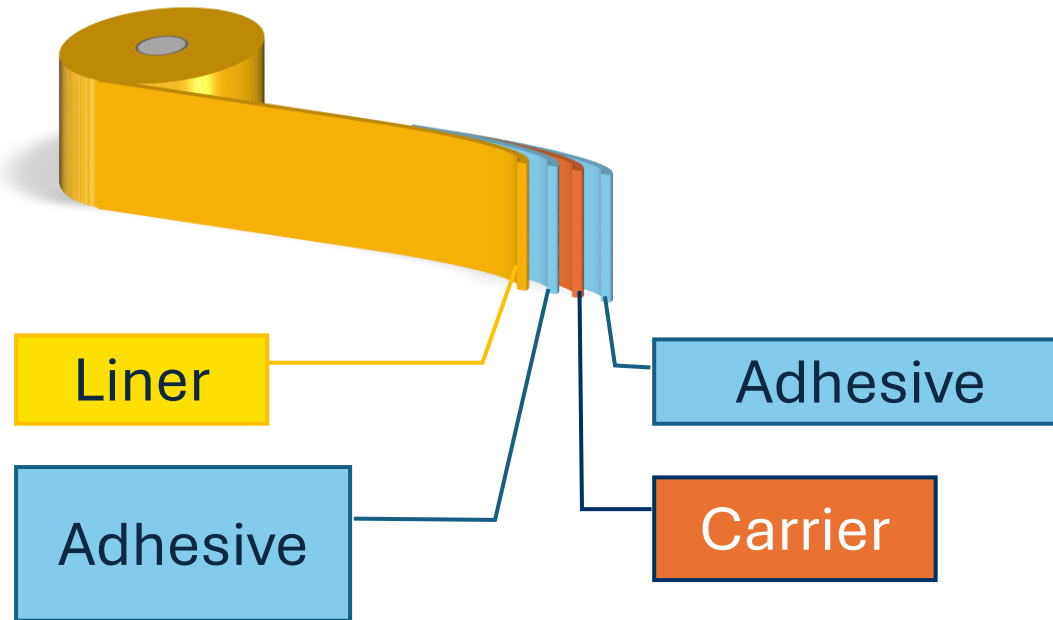


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Tape constructions

Double Sided Tape



ADHESIVE

ACRYLIC POLYMERS
TACKIFIERS
ADDITIVES

LINER:

Filmic or Paper Liner

CARRIER

Films (PP, PET),
Nonwoven,
Scrim

SOLVENT FREE ACRYLIC DISPERSIONS

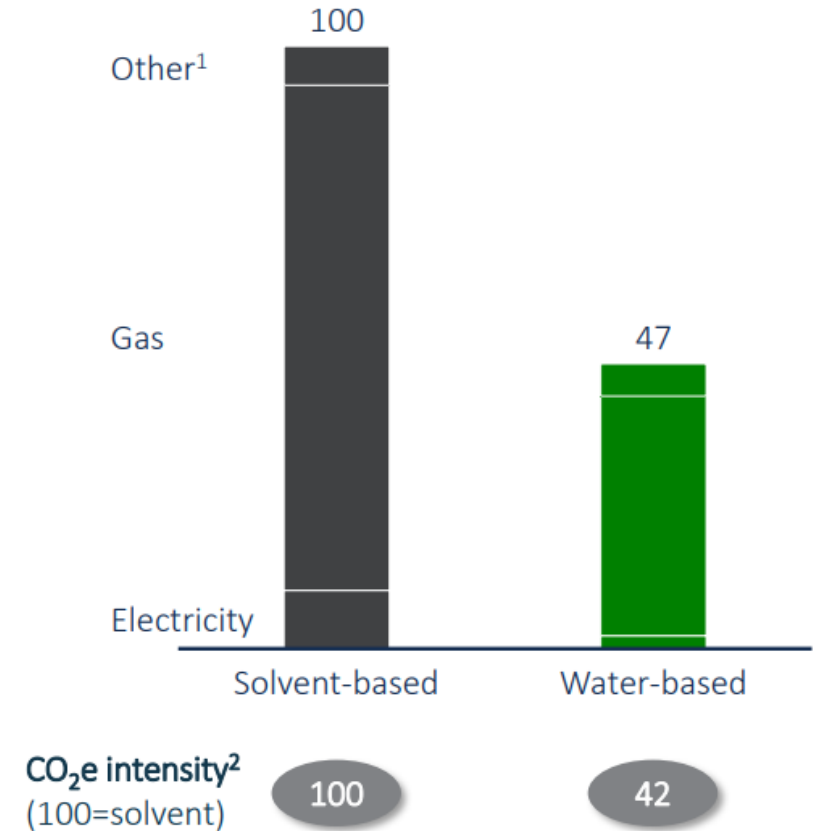
The Product Carbon Footprint (PCF) of Solvent-Free Dispersion is 50% lower than Solvent Based Acrylics

Summary

Typical Product Carbon Footprint (PCF) Values for Industrial Adhesives

Product Group	Typical PCF Values in kg CO ₂ e/kg Product
Adhesives based on water-based Dispersions	1 – 3
Thermoplastic Hot melt Adhesives	2 – 5
Solvent Based Adhesives	2 – 5
Reactive Adhesives	4 – 10

Energy intensity by technology
(100 = solvent-based)



SOLVENT FREE ACRYLIC DISPERSIONS

Compared to Solvent Free Products → Solvent Acrylics have to be labelled as dangerous goods!

**Solvent Free:
Less Health &
Safety Risk for both users
and environment**

Hazard pictogram:



Contains

Ethyl acetate

Toluene

Signal word:

Danger

TACKIFIERS

The tackifiers which are used are based on wood (wood rosin) instead of Crude Oil based Tackifiers

- NATURAL,
- ENVIRONMENTALLY FRIENDLY

significantly reducing reliance on petroleum-derived materials within adhesive formulations



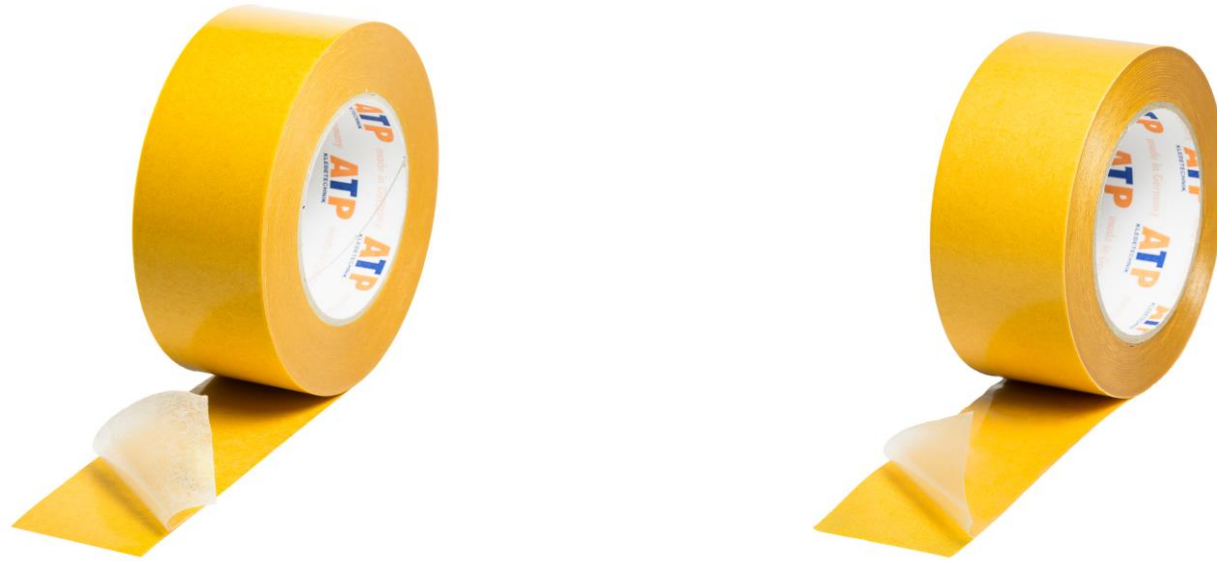
SOLVENT FREE SILICONES are used at ATP

Solvent-based silicone systems are considered critical from a occupational **safety perspective** (solvent vapors).

During the transportation of the silicones, solvent-based systems are classified as hazardous substances. The silicones are delivered by the supplier with a solids content of 40-50%. The silicone applicator then further dilutes them with solvent to achieve a solids content of approximately 10%, meaning a **solvent content of 90%!**

NONWOVEN CARRIERS → are sourced from **100% natural fibers**, enhancing product sustainability and minimizing environmental impact.

PET – CARRIERS → up to **80% recycled content**



ATP USES today only
Plastic Packaging materials
which are
out of **100% recycled Material**

Or already sustainable Materials

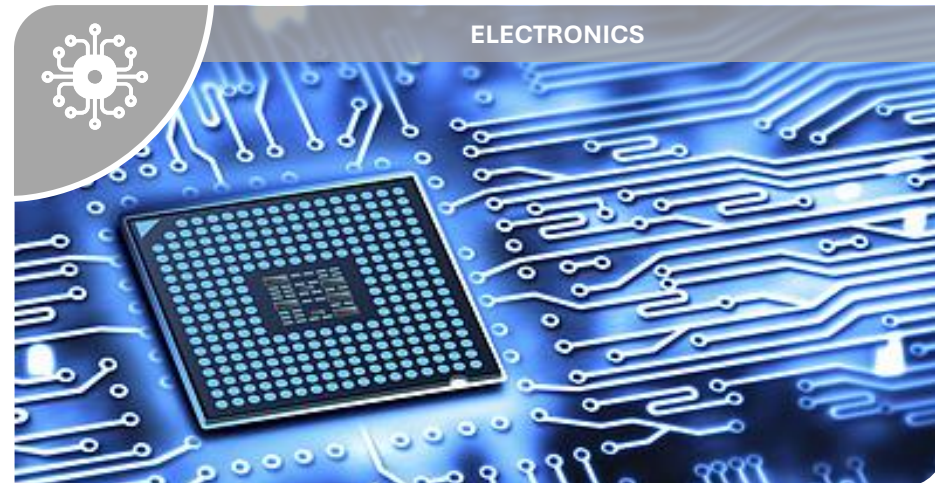


ATP is setting every year KPI's for:

- **CARBON FOOTPRINT and INTENSITY**
- **TOTAL WASTE VOLUME and WASTE RATIO's**
- **WATER CONSUMPTION**
- **ACCIDENTS / 100 FTE's**
- **COMPLAINT RATIO**

Published in the annual environmental statement!

END MARKETS



MOBILITY SOLUTIONS



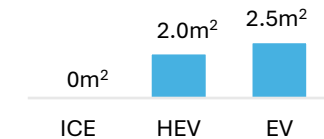
Electronics

- Heating mats
- Cable fixation and protection
- Sensors
- Steering wheel heating



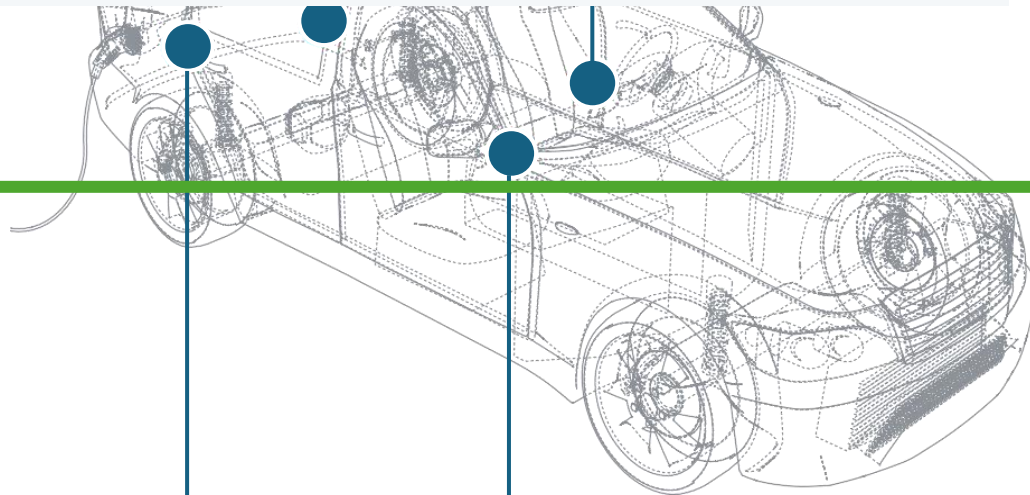
(EV) battery

- Cell to cell bonding
- Thermal insulation/propagation
- Electrical insulation



PSA Tape Volume per Vehicle (m²)

LOW EMISSION RELEVANT



Interior

- Thermal insulation
- Noise insulation
- Vibration dampening
- Comfort foams
- HVAC



Exterior

- Wheel arch liners
- Emblems
- Vignette and labels
- Fixation of various sensors, e.g., LIDAR
- License plates



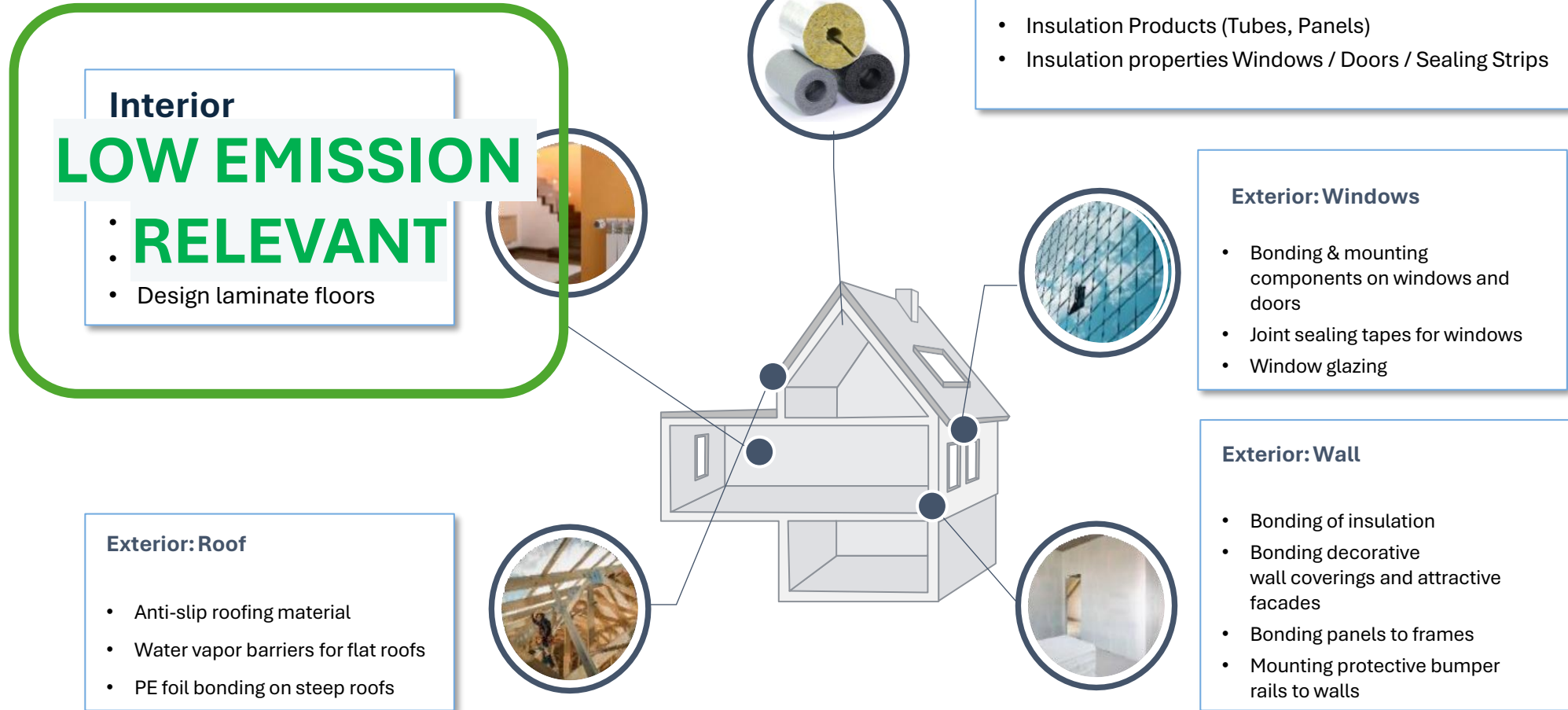
RELEVANT FOR INTERIOR APPLICATIONS

PURE ACRYLIC TAPES (SOLVENT FREE) HAVE 2-3 TIMES LOWER EMISSION VALUES

VOC AND FOG VALUES (ACC. VDA 278 TEST METHOD)

ADHESIVE TYPE	VOC (VDA 278) ppm	FOG (VDA 278) ppm	SMELL (VDA 270) Rating 1-5
SOLVENT BASED TAPE	2000	3000	4
LOW EMISSION COMPETITOR	297	641	3
ATP LOW EMISSION ADHESIVE → ZE ADHESIVE	25	108	3

BUILDING & CONSTRUCTION – KEY APPLICATION AREAS



BUILDING & CONSTRUCTION – → INDOOR AIR QUALITY

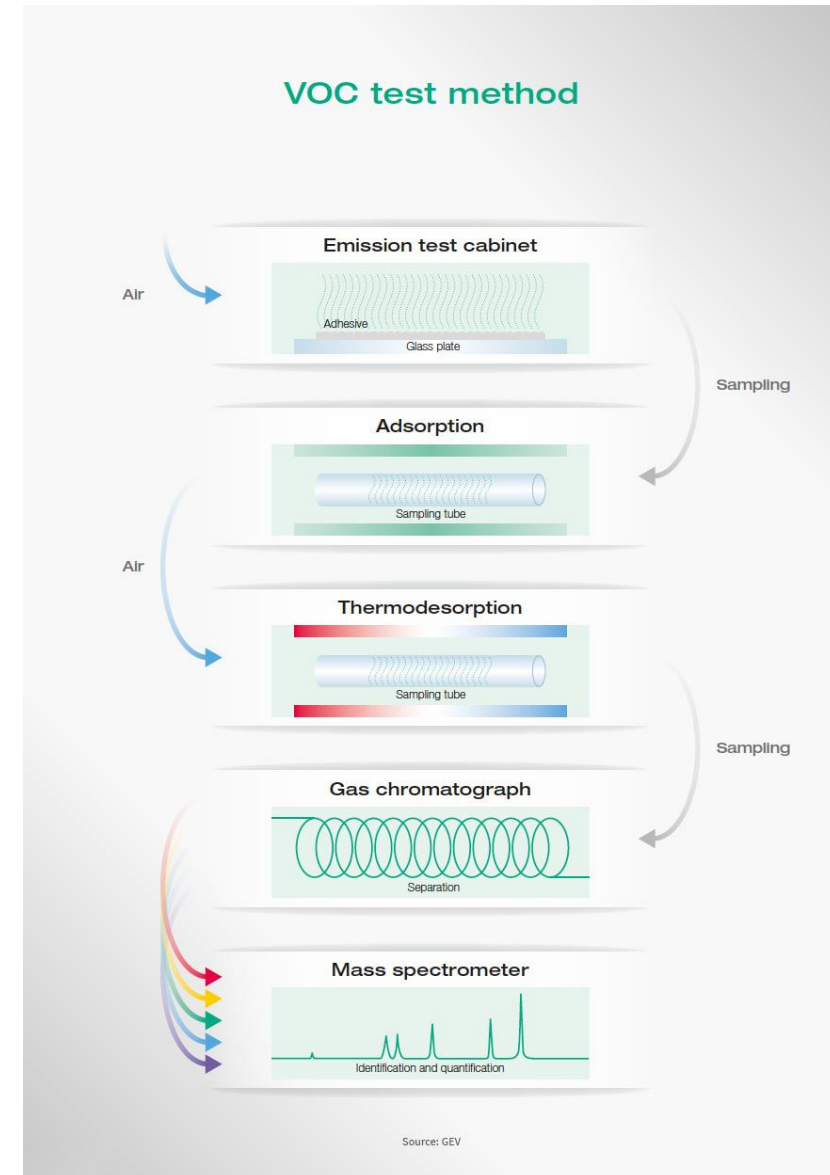
SOLVENT FREE ADHESIVE TAPES (PURE ACRYLICS) ACHIEVE THE LOWEST EMISSION VALUES

EMICODE	after 3 days TVOC [µg/m³]	after 28 days TVOC / TSVOC [µg/m³]
EC 1 ^{PLUS}	≤ 750	≤ 60 / ≤ 40
EC 1	≤ 1000	≤ 100 / ≤ 50
EC 2	≤ 3000	≤ 300 / ≤ 100



In addition, products labelled with EMICODE EC 1^{PLUS} must comply with the LCI-values and the R-value of the most recent [AgBB evaluation scheme](#) after 28 days, and with an upper limit value of 40 µg/m³ for the sum of non-assessable VOCs (VOCs without LCI-value and non-identified VOCs). Results for acetic acid are not included in the calculation of TVOC and R value

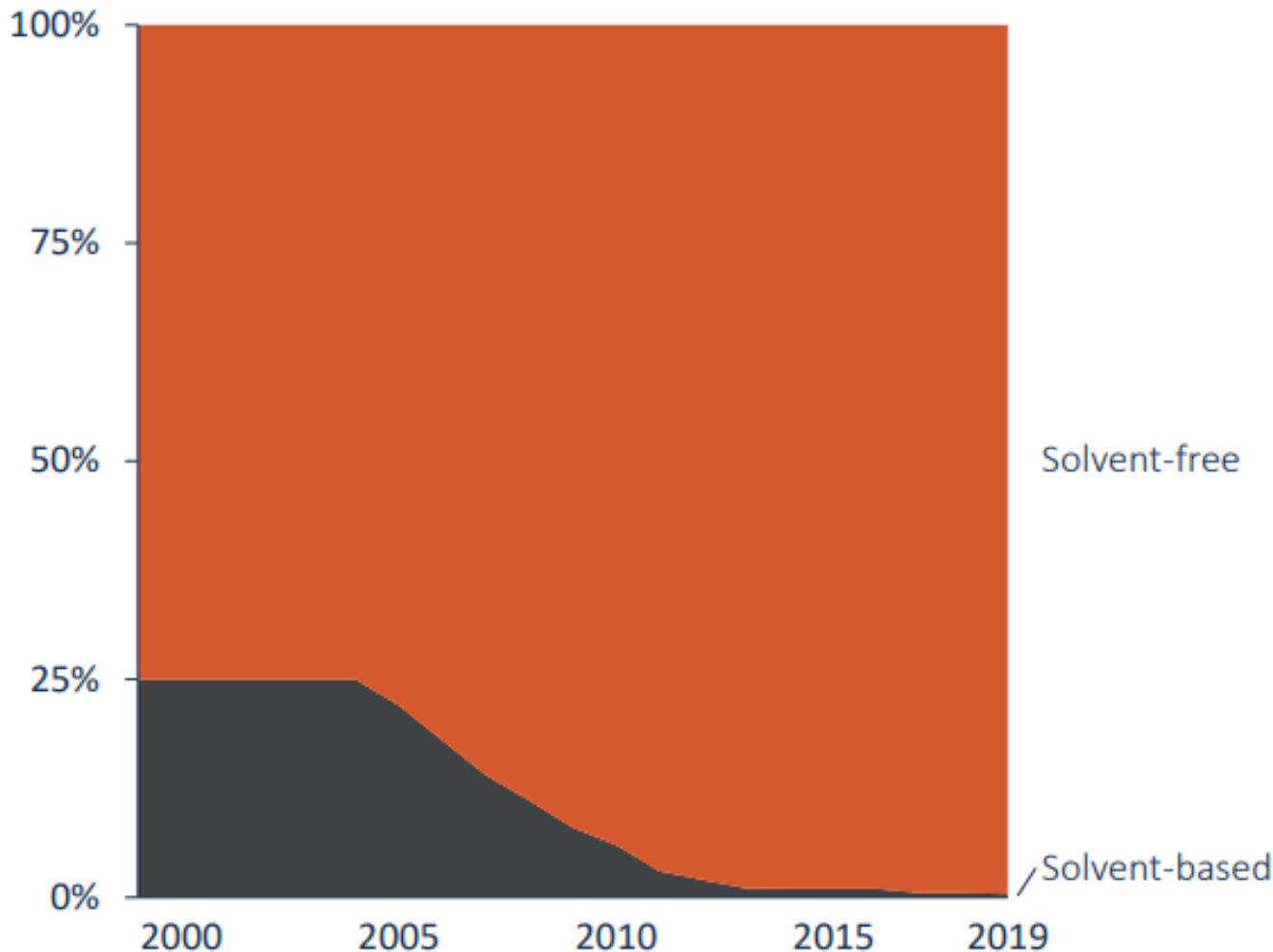
LEED CERTIFIED PRODUCTS:



BUILDING & CONSTRUCTION – → INDOOR AIR QUALITY → EFFECT ON

ADHESIVE TYPES

Flooring adhesive types produced, 2000-19 (%)



- As an example for the water-based success in the market, solvent-based adhesive tapes for flooring have rapidly been replaced by other technologies
- The Emission labelling system was established in 1997 to drive down exposure to hazardous substances indoors and control emissions for flooring installation
- As the initiative was embraced by leading adhesive manufacturers this has driven down solvent-based products to negligible levels

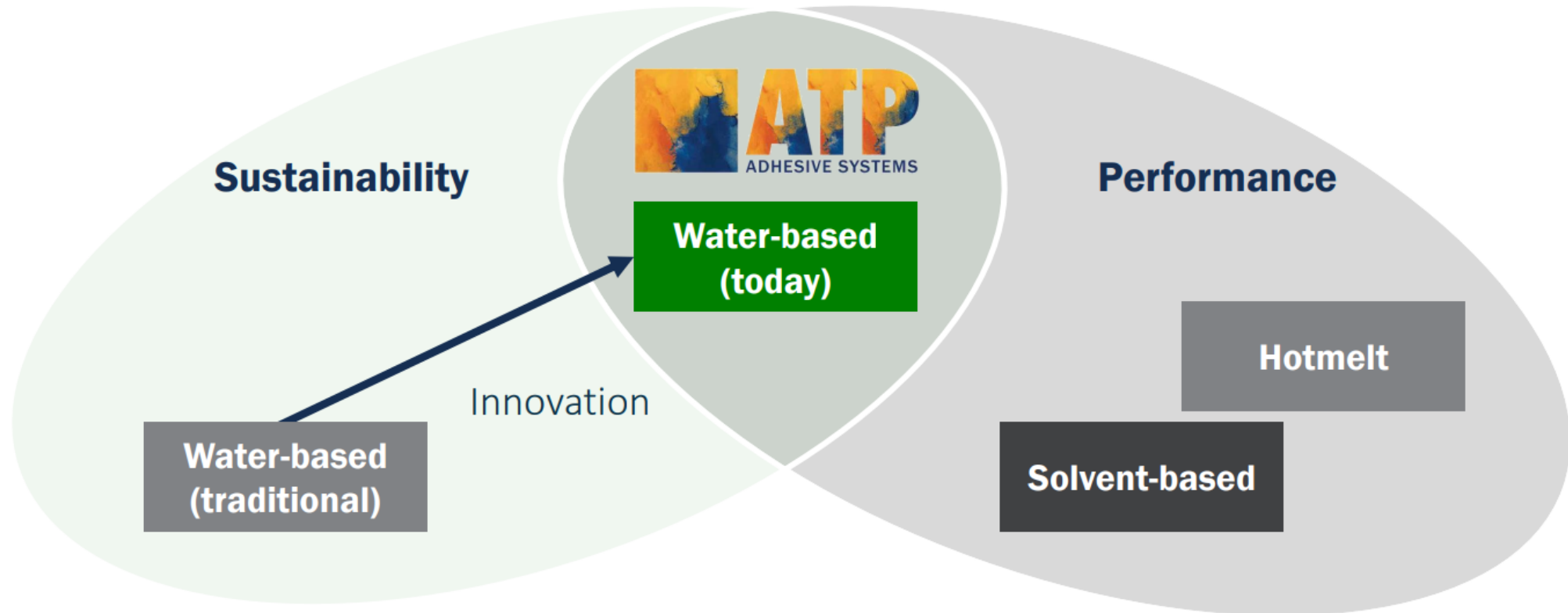
GRAPHIC INDUSTRY

ATP IS OFFERING **PVC-FREE (PLASTICIZER FREE)
FILMIC SOLUTIONS FOR PRINTING AND OVERLAMINATING!**



WATER-BASED IS BECOMING THE SUSTAINABLE HIGH-PERFORMANCE OPTION IN THE INDUSTRY

Today, water-based technology is able to compete and even outperform on performance indicators with a significantly better sustainability profile



- The announcement of our project is released
- \$70 Mio Investment
- 130 NEW Jobs
- 125'000 sq ft Production
- Operations exp July 2026
- Space for up to 4 Coating Lines

BRIDGETOWER MEDIA Select Region or Brand

COLUMBIA REGIONAL **BUSINESS REPORT** Upcoming Event
CRBR WOMEN OF INFLUENCE >

News Regional News Events Leads & Data Center Advertise Press Releases

 **WOMEN OF INFLUENCE** **NOMINATE**
Nomination Deadline is

Home > Manufacturing > Manufacturer to enter SC market with \$70M Lexington County facility



ALLTAPE Adhesive Manufacturing Inc., a manufacturer of adhesive products, has chosen Lexington County to establish the company's first South Carolina operation. (Photo/DepositPhotos)

Manufacturer to enter SC market with \$70M Lexington County facility

Jason Thomas March 13, 2025 // 2 Minute Read

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31



ATP USA Expansion



Market Standard Quality and Environmental Management Certifications



Quality Management
Systems



Eco-Management
and Audit Scheme



Medical Devices
Quality Management
System



Testing and
Calibration
Laboratories



Environmental
Management System



Automotive Quality
Management
Systems

ATP IS WORKING IN INDUSTRY LEADING ASSOCIATIONS



ATP announced as a Winner of Deloitte's
"Best Managed Companies" 2023 & 2024
Got Bronze Medal from EcoVadis





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