Circular Construction
rethinking materials and spaces

Lindner

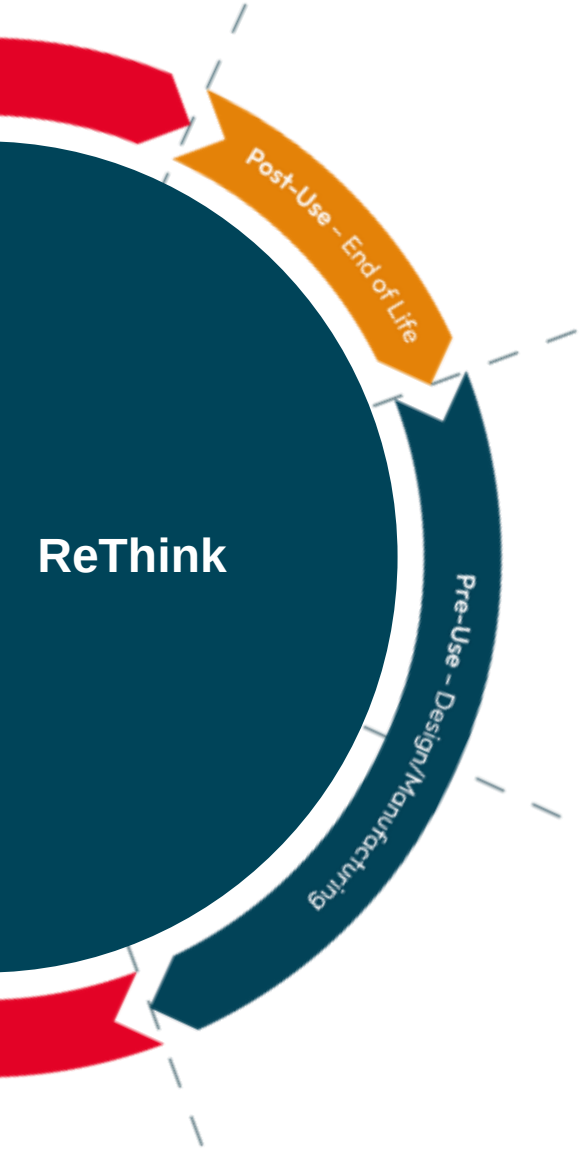

Strategy over
chaos
Lindner

Circular Strategies
built to last

Lindner

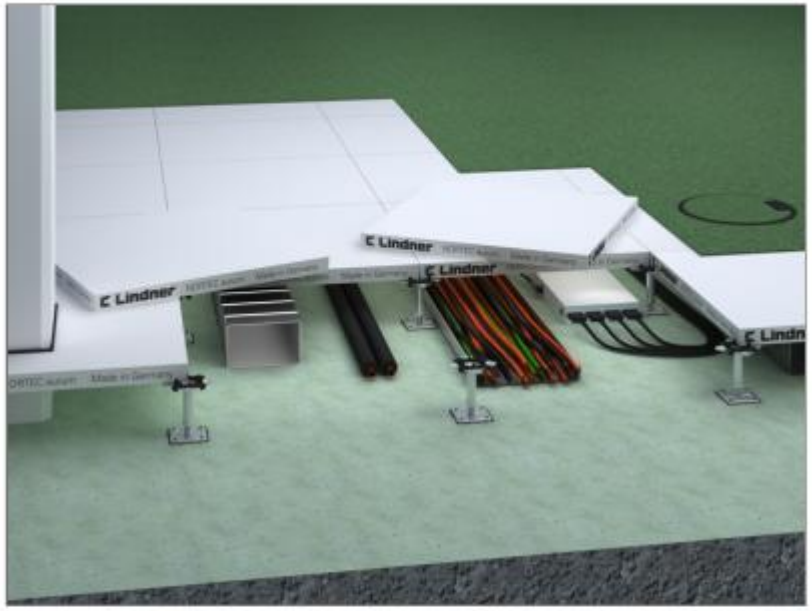

ReThink
Thinking designs circular and intensifying product use, e.g. through new business models
ReDuce
Lowering resource consumption and increasing efficiency in production and use
Pre-Use – Design/Manufacturing
ReCycle
Materials are directed towards a new purpose/product through material recovery
Post-Use – End of Life
ReUse
Reusing products in their original function, in the same or a different location
RePurpose
Parts and materials are given a new function/purpose in new products
RePair
The original condition and function of the product is preserved
Use – Usage
ReManufacture
Continuation of materials and/or product parts in the same function, but within a new product
ReFurbish
Modifications to the original product, its function in terms of form, surface, colour, etc.

Lindner

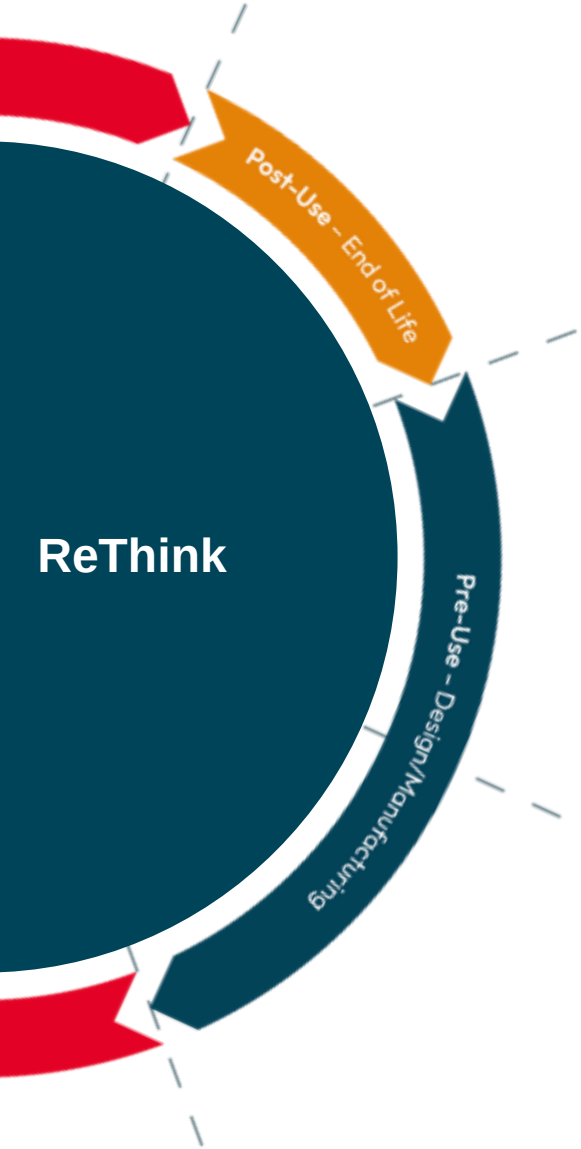


Cradle 2 Cradle Certified® design approach

- Use of secondary raw materials wherever possible
- Low-emission and non-toxic materials
- Reversible connections

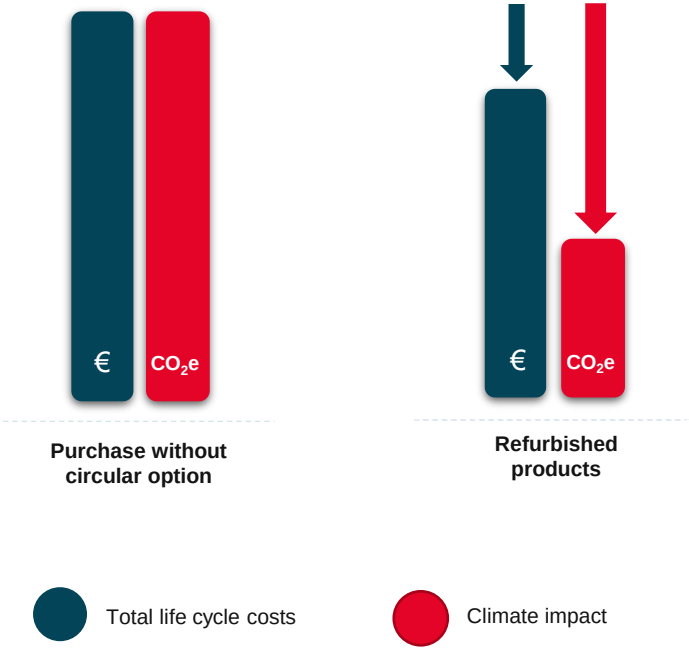


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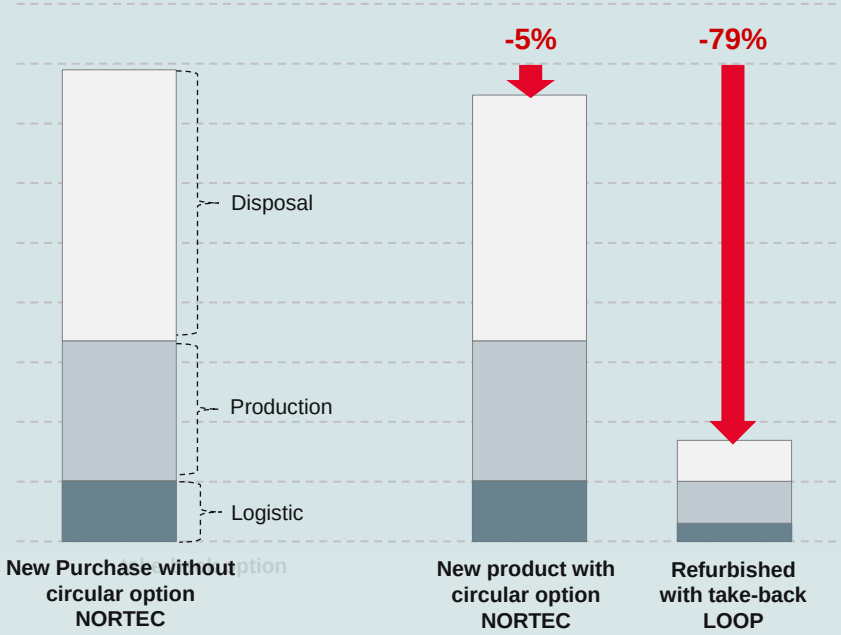


Circular business models LinLoop

Status Quo
„sell & forget“



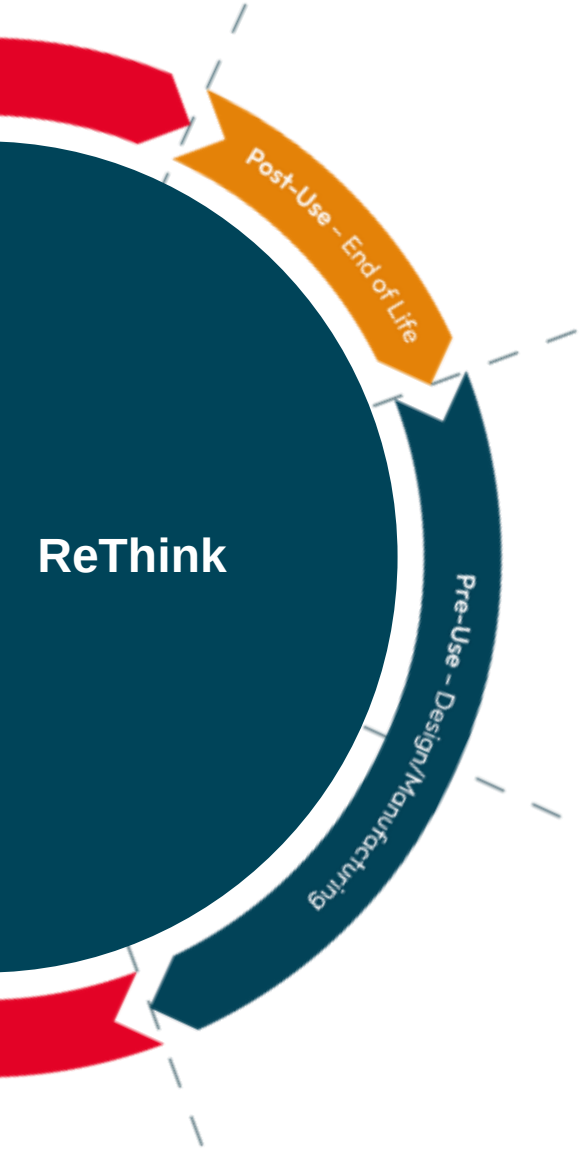
Example take-back flooring system - kg CO2e / m²



Total life cycle costs

Climate impact

Lindner



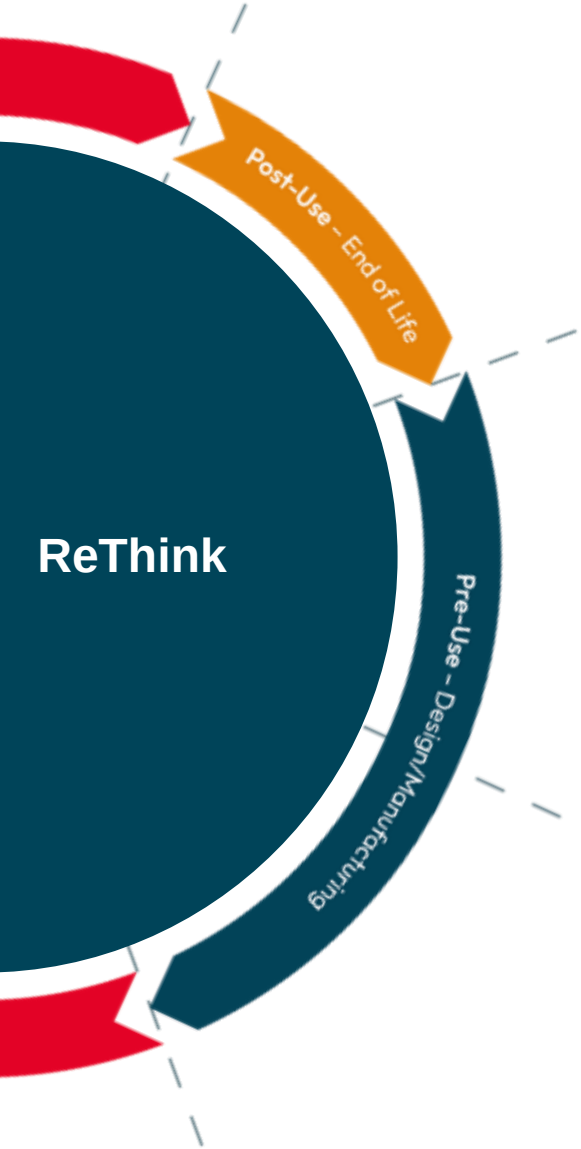
We take the entire Value Chain into account



Potential benefits with Lindner as a full-service provider

- flexible, modular products and services for multiple use
- potential for reduced resource, energy and material input
- potential for lower CO_2 emissions and improved environmental footprint
- high recycling and/or reuse rate
- cost efficiency and time savings in renovation and redesign

Lindner



Our contribution to your EU Taxonomy compliance in new construction and renovation

Environmental objectives of the EU Taxonomy:

- **Climate change mitigation**
- Climate change adaptation
- Pollution prevention and controll
- **Transition to a circular economy**
- Protection of water and marine resources
- Protection of biodiversity and ecosystems

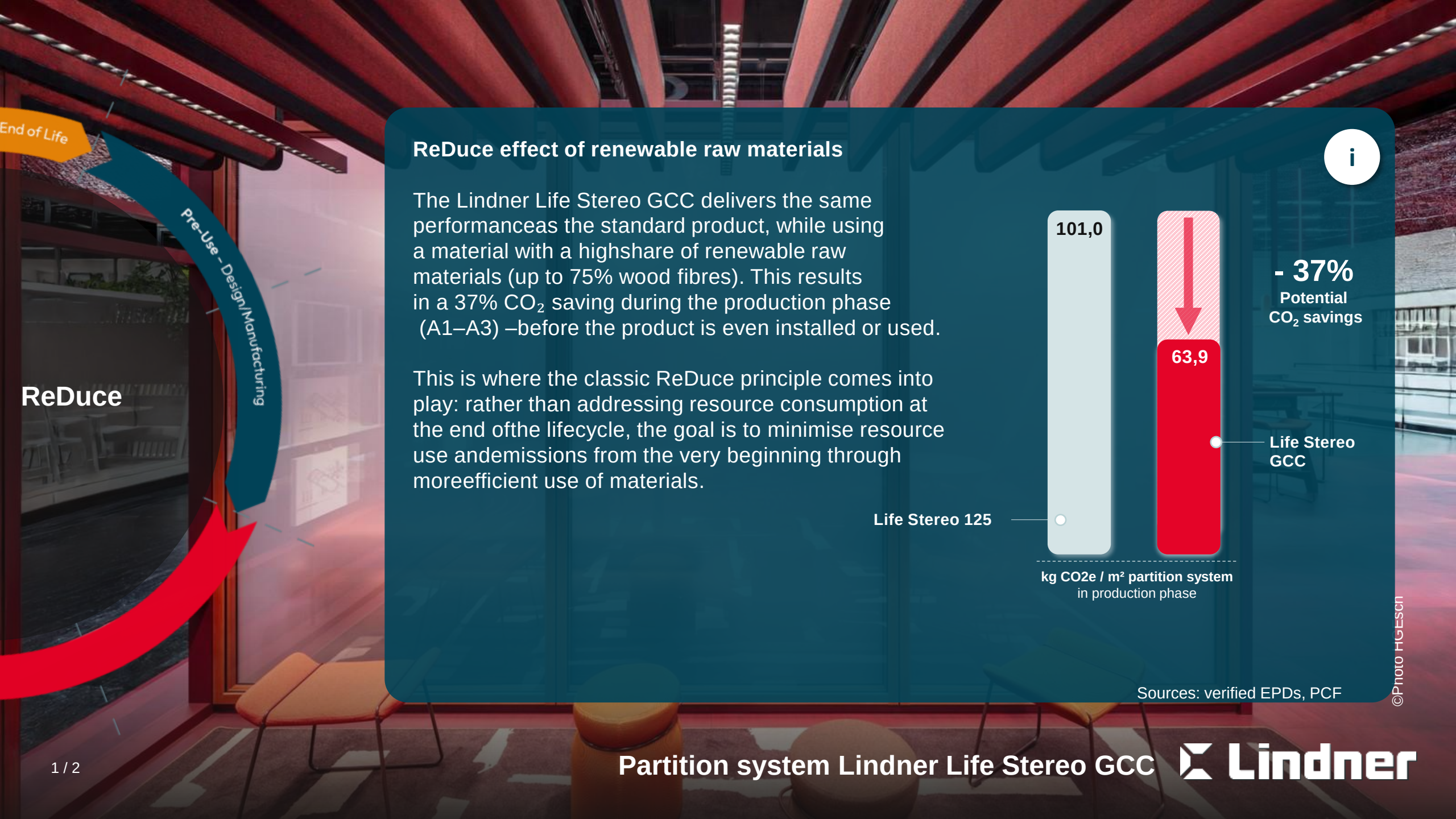
Our contribution to climate change mitigation

- CO_2 footprint via EPDs
- Efficiant thermal insulation
- Energy efficiant fit-out products

Our contribution to circular economy

- Flexible and demountable
- LinLoop models

Lindner



ReDuce effect of renewable raw materials

The Lindner Life Stereo GCC delivers the same performanceas the standard product, while using a material with a highshare of renewable raw materials (up to 75% wood fibres). This results in a 37% CO_2 saving during the production phase (A1–A3) –before the product is even installed or used.

This is where the classic ReDuce principle comes into play: rather than addressing resource consumption at the end ofthe lifecycle, the goal is to minimise resource use andemissions from the very beginning through moreefficient use of materials.

Sources: verified EPDs, PCF

©Photo HGEsch

Partition system Lindner Life Stereo GCC

Lindner



The Project
The hbw | Haus der Bayerischen Wirtschaft in Munich, one of Germany's leading conference centres, modernised its entire lighting technology as part of a comprehensive renovation.Lindner Leuchtenfabrik took charge of the planning and manufacturing of 150 individually customised special LED luminaires.

ReDuce in use
The switch from conventional lighting to LED technology significantly reduces ongoing resource consumption:

- lower energy consumption through highly efficient LED technology
- reduced maintenance requirements due to significantly longer lamp lifespans
- less material consumption through less frequent lamp replacements

ReDuce in production

- Precision manufacturing (metal spinning instead of stamping) enables highest dimensional accuracy with minimal material waste
- custom single-unit production at the Mettenbach site prevents overproduction and unnecessary material use
- close coordination with the on-site electrician minimises errors, rework and material losses during installation

Haus der Bayerischen Wirtschaft, Munich: LED retrofit

Lindner

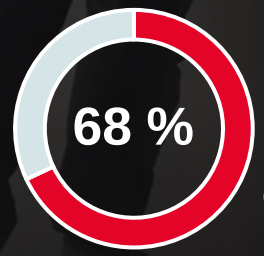


The Project
During a tenant change at Fleet Office II in Hamburg, the approximately eight-year-old office spaces (originally fitted out by Lindner Group for AXA Insurance) were adapted for a new tenant. Instead of a complete dismantling, the focus was on maximising the reuse of existing products.

ReUse in practice
Bestehende Produkte wurden demontiert und in ihrer ursprünglichen Funktion direkt wieder eingesetzt.

Glass partition walls
- Systems Lindner Life Clear & Lindner Life Pure 620
- Demounting – Adaption to new floor plan – Remounting as room dividers

Cooling ceiling panels (Plafotherm® DS 320)
- Existing panels were integrated into the new design
- Continued use in identical function as building services equipment



CO_2 reduction potential in the second life cycle
Lindner Life Pure 620

Sources: EPD under verification, PCF

Circular Tenant Fit-Out at Fleet Office II, Hamburg



The Project

In the 9th district of Vienna, the Francis was developed as a forward-looking office building spanning 60,000 m². The key sustainability approach: no demolition, no new construction – instead, a consistent revitalisation of the existing station building. The result: 67% less CO_2 compared to a comparable new build, saving approximately 18,625 tonnes.

The existing station building was fully retained

- Load-bearing structure, envelope and fabric were preserved
- The building serves a new purpose in an identical function: modern working environment instead of outdated infrastructure
- Awarded ÖGNI Platinum Pre-Certification as proof of the sustainable approach

ReUse at product level with CAS Rooms Free

- Sample area with combined CAS Rooms
- Flexible zoning elements with second-life materials

Modular wall and partition systems

- Lindner Life Clear, Lindner Life Pure 620 and mobile partitions
- Flexibly demountable and relocatable – designed for future reuse

CO_2 reduction potential during the production phase: CAS Room

Sources: EPD under verification, PCF

© Walter Luttenberger

Interior Fit-Out Francis at Althan Quartier, Vienna – Merging of CAS Rooms

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The Project
The polygonal steel post-and-rail facades of Campus Taunus Sparkasse in Bad Homburg showed age- and weather-related defects. The target: restoring weathertightness, protection and appearance without altering the characteristic visual identity.

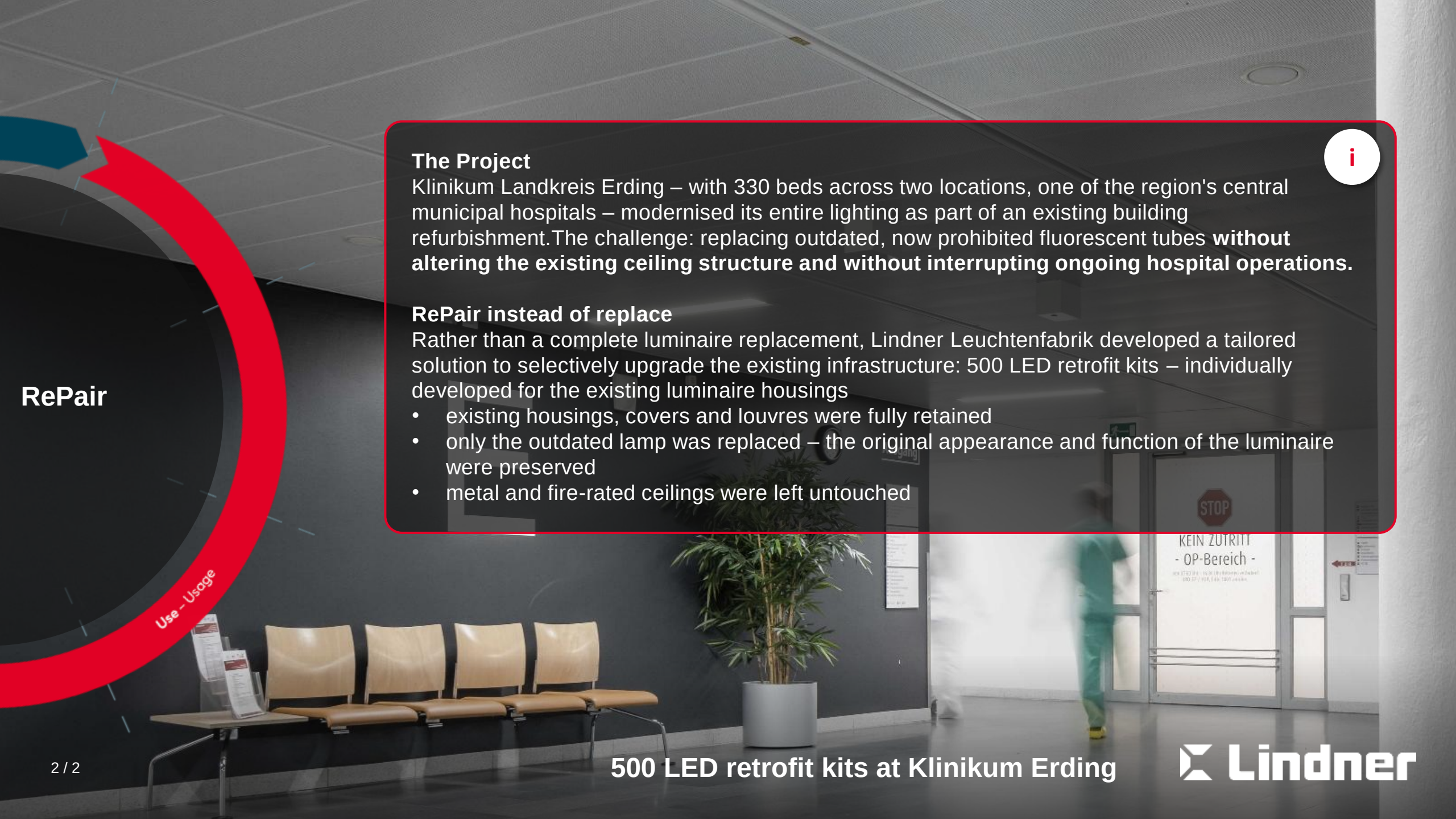
RePair in practice
Instead of replacing the facade, repairs and upgrades were carried out:

- Solar shading systems – demounted, rewired, reinstalled
- Pressure plates and cover caps – demounted, fitted with new ventilation and drainage openings, remounted
- Insulating glass units and glass panels – cleaned, deposits removed, function restored
- Glass gaskets – critical areas sealed with EPDM sealant
- Cross points and facade elements – insulated and permanently protected with butyl tape and EPDM sealant

Conclusion
The facade remains what it is: form, structure and appearance are fully preserved. Through repair and maintenance, the original function is restored and the service life of the building envelope is significantly extended.

Facade RePair of Campus Taunus Sparkasse, Bad Homburg

Lindner



RePair

Use – Usage

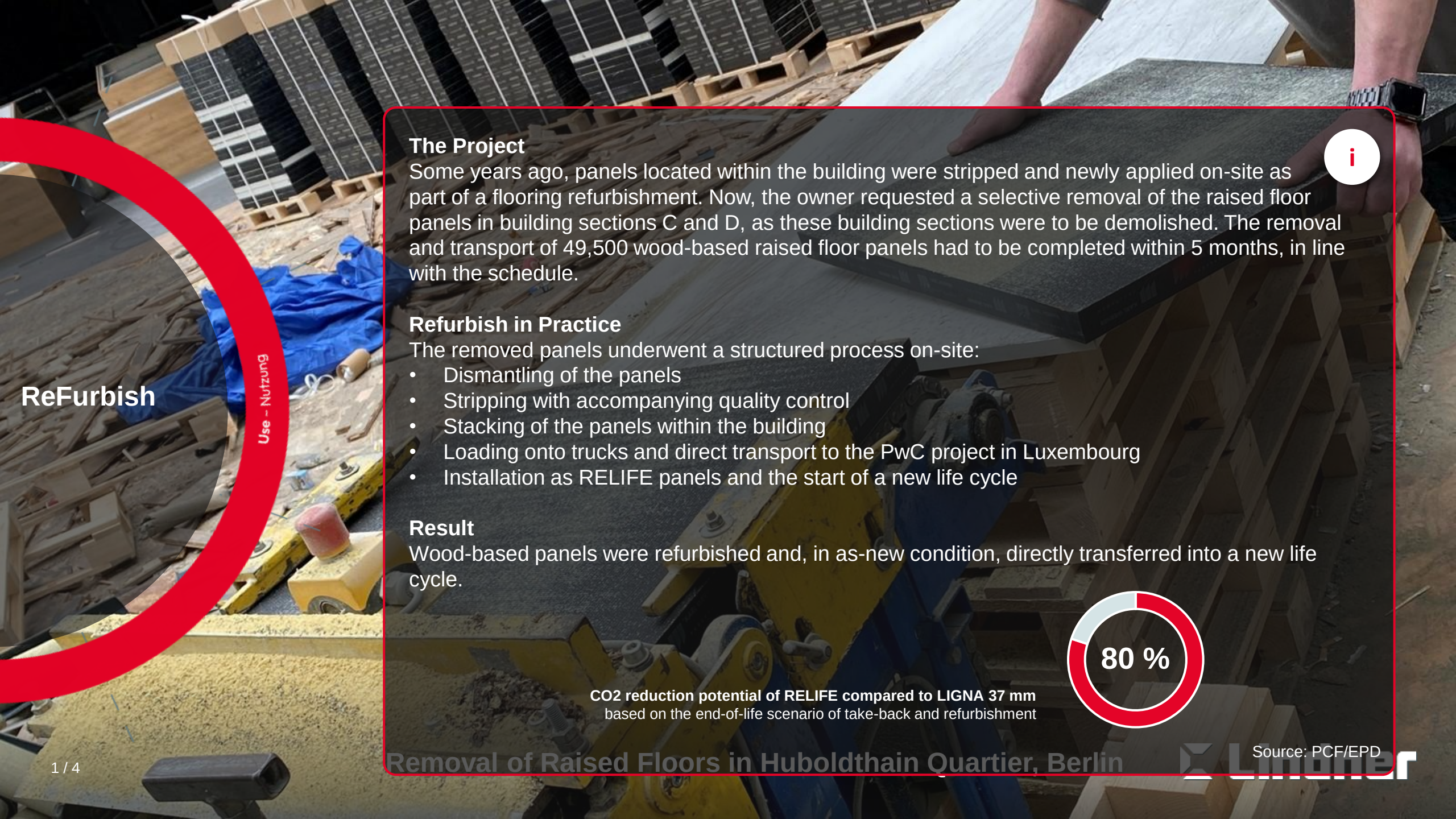
The Project
Klinikum Landkreis Erding – with 330 beds across two locations, one of the region's central municipal hospitals – modernised its entire lighting as part of an existing building refurbishment.The challenge: replacing outdated, now prohibited fluorescent tubes **without altering the existing ceiling structure and without interrupting ongoing hospital operations.**

RePair instead of replace
Rather than a complete luminaire replacement, Lindner Leuchtenfabrik developed a tailored solution to selectively upgrade the existing infrastructure: 500 LED retrofit kits – individually developed for the existing luminaire housings

- existing housings, covers and louvres were fully retained
- only the outdated lamp was replaced – the original appearance and function of the luminaire were preserved
- metal and fire-rated ceilings were left untouched

500 LED retrofit kits at Klinikum Erding

Lindner



ReFurbish

Use – Nutzung

The Project
Some years ago, panels located within the building were stripped and newly applied on-site as part of a flooring refurbishment. Now, the owner requested a selective removal of the raised floor panels in building sections C and D, as these building sections were to be demolished. The removal and transport of 49,500 wood-based raised floor panels had to be completed within 5 months, in line with the schedule.

Refurbish in Practice
The removed panels underwent a structured process on-site:

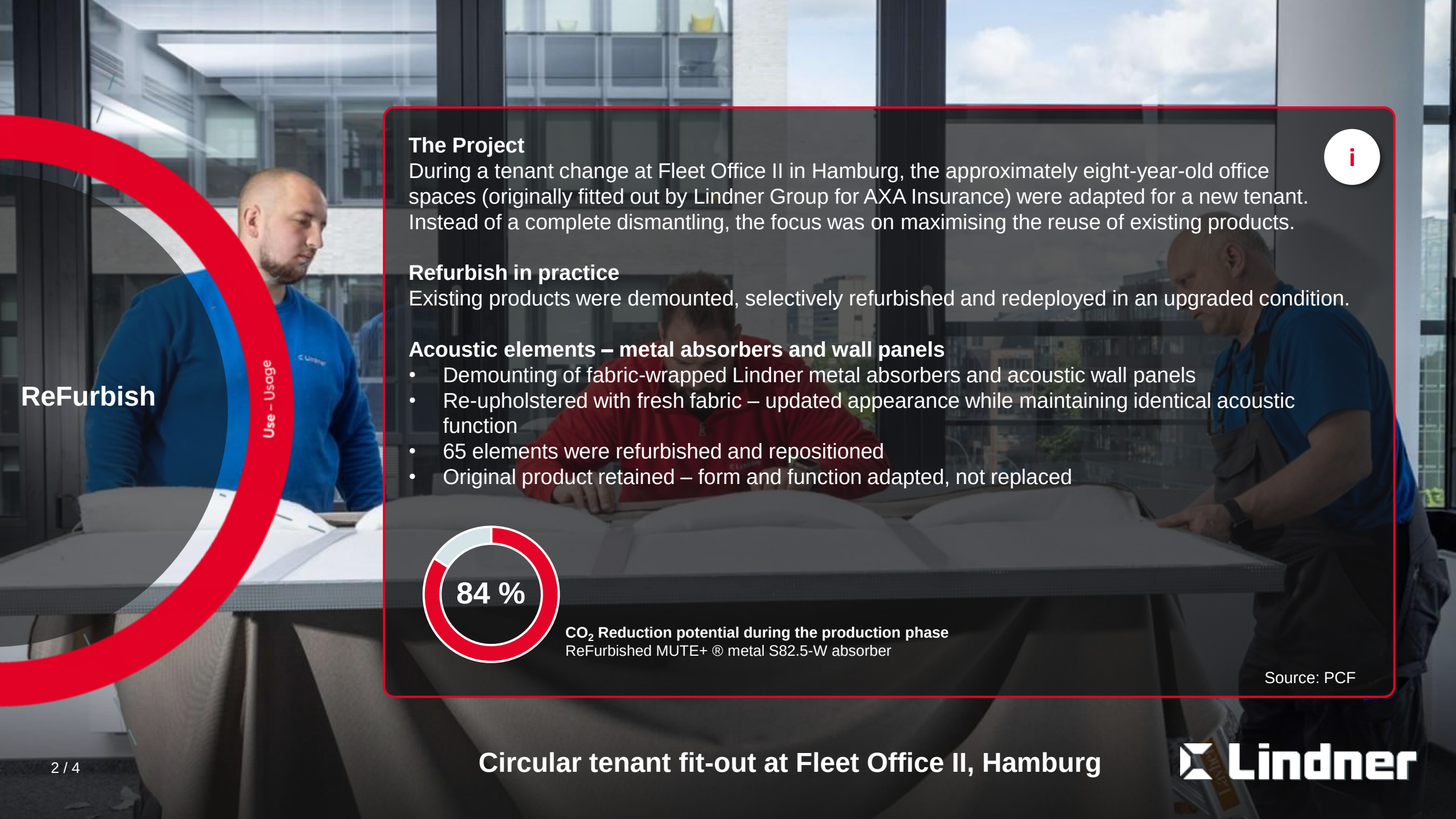
- Dismantling of the panels
- Stripping with accompanying quality control
- Stacking of the panels within the building
- Loading onto trucks and direct transport to the PwC project in Luxembourg
- Installation as RELIFE panels and the start of a new life cycle

Result
Wood-based panels were refurbished and, in as-new condition, directly transferred into a new life cycle.

CO2 reduction potential of RELIFE compared to LIGNA 37 mm
based on the end-of-life scenario of take-back and refurbishment

Source: PCF/EPD

Removal of Raised Floors in Huboldthain Quartier, Berlin



The Project
During a tenant change at Fleet Office II in Hamburg, the approximately eight-year-old office spaces (originally fitted out by Lindner Group for AXA Insurance) were adapted for a new tenant. Instead of a complete dismantling, the focus was on maximising the reuse of existing products.

Refurbish in practice
Existing products were demounted, selectively refurbished and redeployed in an upgraded condition.

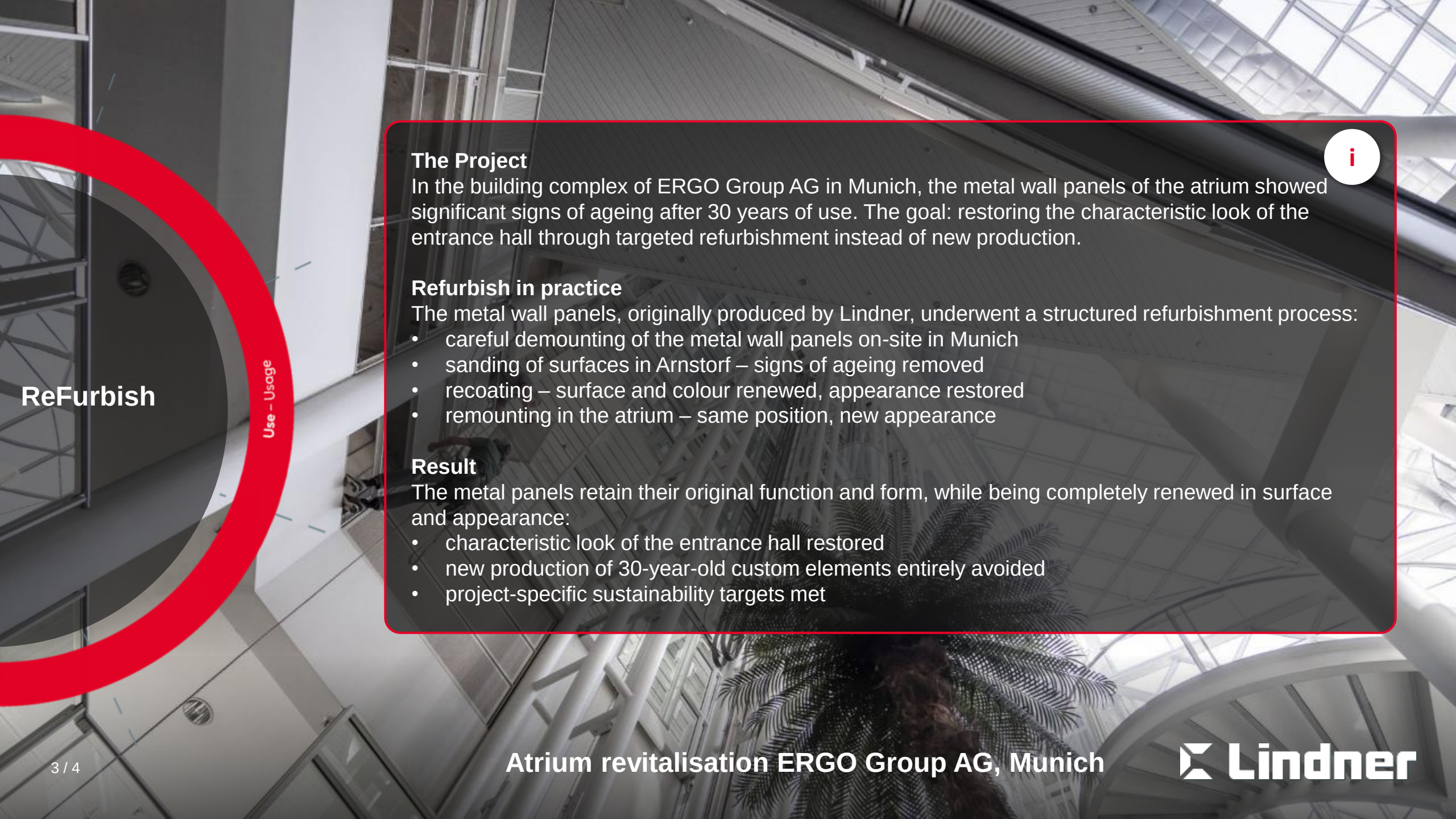
Acoustic elements – metal absorbers and wall panels

- Demounting of fabric-wrapped Lindner metal absorbers and acoustic wall panels
- Re-upholstered with fresh fabric – updated appearance while maintaining identical acoustic function
- 65 elements were refurbished and repositioned
- Original product retained – form and function adapted, not replaced

CO_2 Reduction potential during the production phase
ReFurbished MUTE+ ® metal S82.5-W absorber

Source: PCF

Circular tenant fit-out at Fleet Office II, Hamburg



ReFurbish

Use – Usage

The Project
In the building complex of ERGO Group AG in Munich, the metal wall panels of the atrium showed significant signs of ageing after 30 years of use. The goal: restoring the characteristic look of the entrance hall through targeted refurbishment instead of new production.

Refurbish in practice
The metal wall panels, originally produced by Lindner, underwent a structured refurbishment process:
- careful demounting of the metal wall panels on-site in Munich
- sanding of surfaces in Arnstorf – signs of ageing removed
- recoating – surface and colour renewed, appearance restored
- remounting in the atrium – same position, new appearance

Result
The metal panels retain their original function and form, while being completely renewed in surface and appearance:
- characteristic look of the entrance hall restored
- new production of 30-year-old custom elements entirely avoided
- project-specific sustainability targets met

Atrium revitalisation ERGO Group AG, Munich

Lindner

ReFurbish

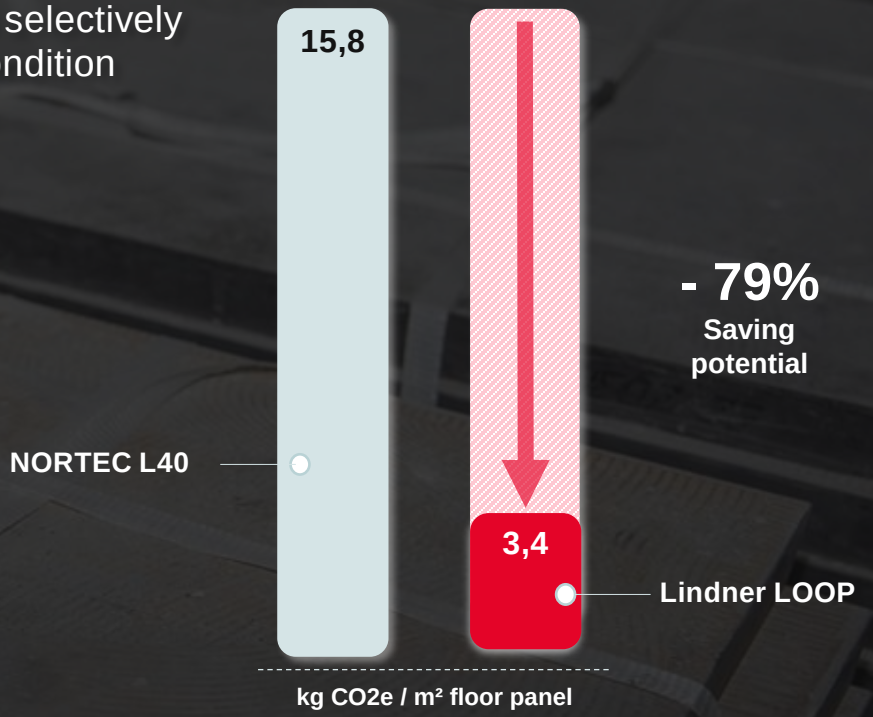
Use – Usage

The Project
During the redesign of an office floor area in Herzogenaurach, Schaeffler embraced circular construction. Used calcium sulphate raised floor panels were demounted and selectively refurbished by Lindner – restored to an as-new condition instead of being disposed of.

Refurbish in practice
The dismantled panels underwent a structured refurbishment process at the production facility in Arnstorf:

- removal of metallic residues
- robot-assisted milling of the top surface and edges, and renewal of surfaces
- application of a new edge band to restore form and appearance

Result: Panels restored to as-new condition, ready for the next lifecycle.



- 79%
Saving potential

Sources: verified EPD

A second life for Schaeffler floor panels

ReManufacture

The Project
At the MediaMarktSaturn Campus in Ingolstadt, installed Lindner system products (partition system studs, profiles and components) were professionally demounted, stored and selectively prepared for reuse as part of a building adaptation.

ReManufacture in practice
Deconstructed system components are not simply reused as-is, but selectively reworked depending on condition and intended application:

- inspection and refurbishment of demounted elements following deconstruction
- technical and visual adaptation to new use scenarios
- storage in Arnstorf as the basis for structured reinstallation in future projects

Conclusion
Following deconstruction, the system components undergo an active refurbishment process and are reintegrated in a new form into new products and projects – ReManufacture as the link between deconstruction and redeployment.





Deconstruction of system products at MediaMarktSaturn Campus, Ingolstadt

Lindner

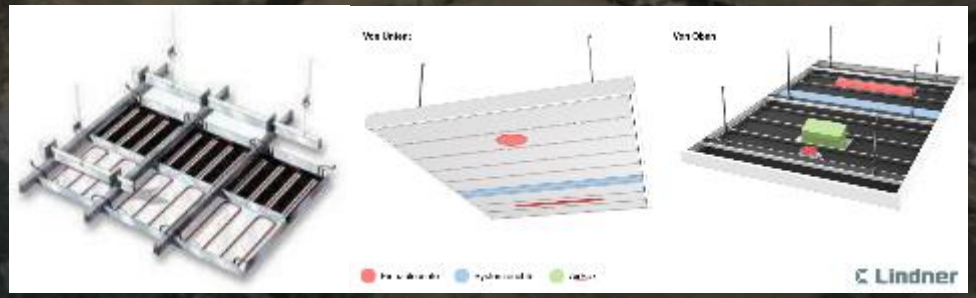


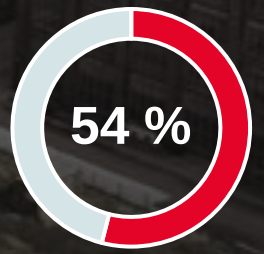
The Project: Quartier am Humboldthain (QAH)
The former service centre of Berliner Sparkasse is being transformed into a future hub for science, education, production and culture. At 234,000 m² GFA, it is the largest commercial development within Berlin's S-Bahn ring. The goal: circular deconstruction instead of disposal.

The Idea: From Office Ceiling to New Building Element
Well-preserved metal ceiling panels could be systematically deconstructed, refurbished by Lindner and redeployed as building elements in the newly emerging quarter: new context, new function, zero waste.

Pioneering work with challenges
- no established resale market for deconstructed ceiling panels yet
- limited standardisation makes broad application more difficult
- time gap between removal and reinstallation requires interim storage

Not implemented at QAH, but provides the base for a future scalable RePurpose process.

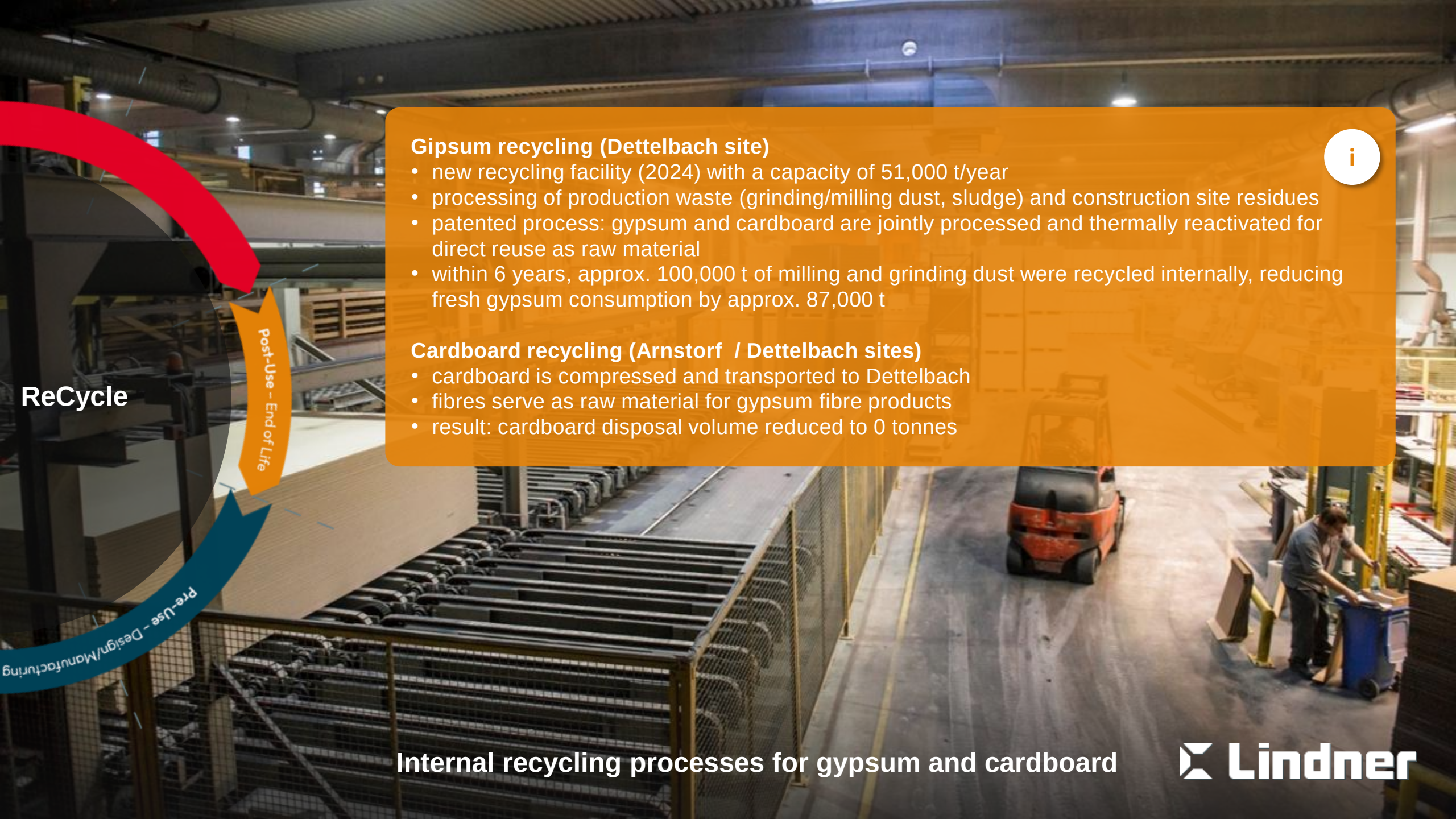




CO_2 reduction potential
RePurpose LMD with Copper Heat Conduction Profile vs. new Plafotherm®

Sources: EPD in verification, PCF

Case Study: RePurpose metal ceiling panels at QAH, Berlin



Gipsum recycling (Dettelbach site)

- new recycling facility (2024) with a capacity of 51,000 t/year
- processing of production waste (grinding/milling dust, sludge) and construction site residues
- patented process: gypsum and cardboard are jointly processed and thermally reactivated for direct reuse as raw material
- within 6 years, approx. 100,000 t of milling and grinding dust were recycled internally, reducing fresh gypsum consumption by approx. 87,000 t

Cardboard recycling (Arnstorf / Dettelbach sites)

- cardboard is compressed and transported to Dettelbach
- fibres serve as raw material for gypsum fibre products
- result: cardboard disposal volume reduced to 0 tonnes

Internal recycling processes for gypsum and cardboard

Lindner

How to improve a perfect product?

ReUse it!

Lindner

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