



RUSTLESS • ANTICORROSION SOLUTIONS

STRATEGIC PROTECTION FOR METAL **ASSETS.**

Proprietary technology, applied engineering and continuous monitoring to extend the service life of exposed, buried or submerged metal structures.

01 – The problem

Corrosion is operational risk.

When it appears, the problem started long before. Corrosion isn't "rust" — it's the progressive loss of asset value, which compromises:

Structural integrity

Operational safety

Asset availability

Maintenance predictability

CAPEX & OPEX

Operational continuity



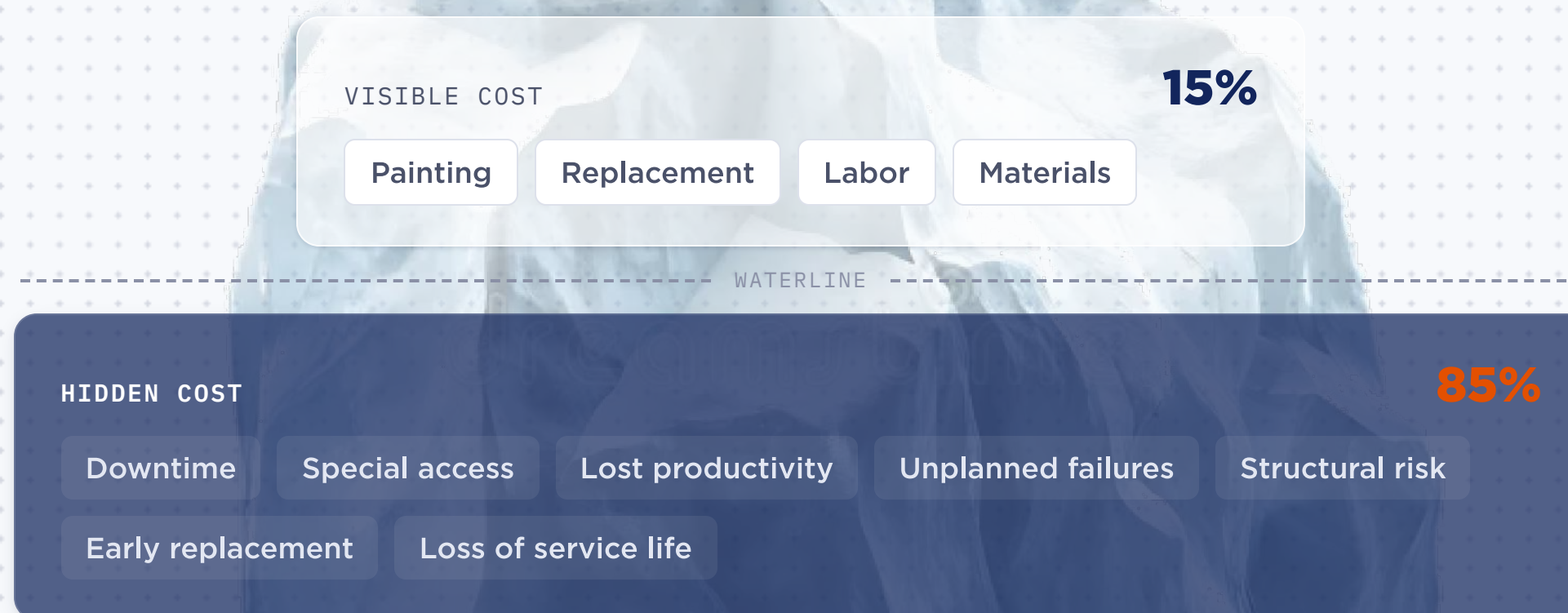
01 – The problem

The cost of corrosion isn't all in the budget.

Corrective maintenance is only the visible side.
The greatest impact lies below the waterline.

85%

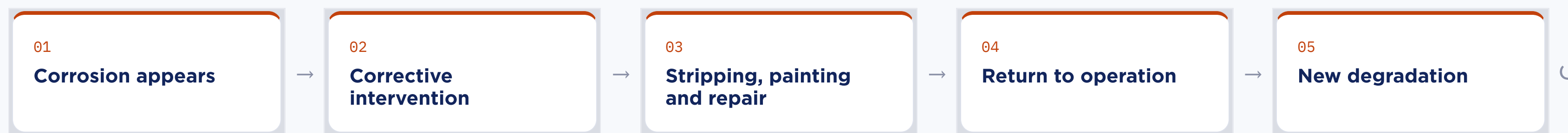
of the real cost of corrosion is hidden — it never appears on the repair invoice.



01 – The problem

The market treats the effect. Rarely the cause.

Clean, paint, repair... repeat. Paints, galvanizing and coatings have value, but act mainly as barriers. When the barrier fails, corrosion advances again.



TECHNICAL NOTE Traditional methods remain useful, but become limited when they carry, on their own, the entire responsibility for anticorrosion protection.

02 – The paradigm shift

From reactive maintenance to continuous protection.

Rustless changes the moment of intervention: protecting the asset before degradation sets in.

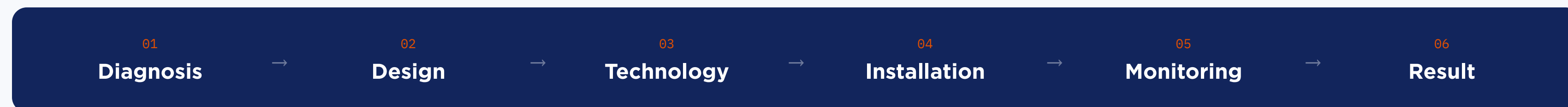
FROM	TO
Fix after it degrades	Protect before it fails
One-off service	Continuous system
Recurring cost	Value protection
Supplier	Technical partner
Reactive intervention	Anticorrosion strategy

03 – The Rustless strategy

Rustless is an anticorrosion strategy company.

Proprietary technology applied to the preservation of critical metal assets, through a continuous and monitored anticorrosion strategy — not just a piece of equipment.

- **Technical diagnosis**
- **Application design**
- **Anodic electronic technology**
- **Modular installation and monitoring**
- **Reports and continuous follow-up**



Rustless acts on the electrochemical origin of corrosion.

1 CORROSION CONTROL UNIT



Control unit and power supply for the system.

2 RAC MODULE



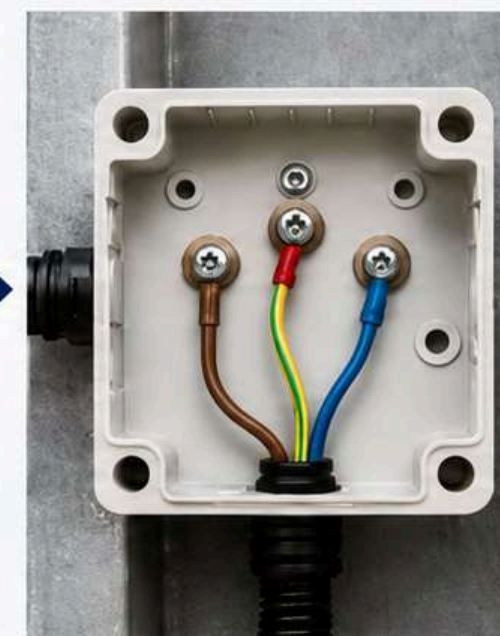
Configurable electronic module responsible for delivering anticorrosion protection.

3 DISTRIBUTION CIRCUIT



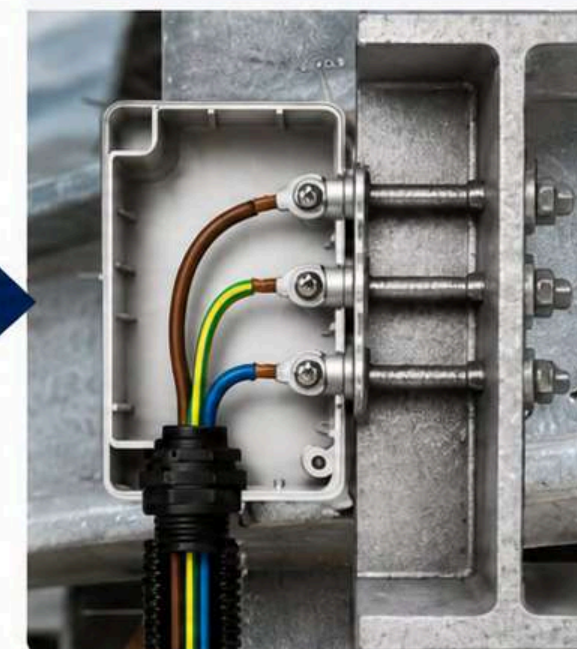
Distribution of the protective potential along the metal structure.

4 ANCHOR POINT BOX



Technical interface between the circuit and the structure.

5 ANCHORING POINT



Connection point to the structure for electrochemical potential stabilization.

04 – The technology

A modular system, configured for each asset.

There is no generic protection. There is engineering. Each application is sized based on:

01 **Geometry**

02 **Metal mass**

03 **Structural continuity**

04 **Exposure environment**

05 **Corrosion history**

06 **Operational criticality**

07 **Accessibility**

08 **Service-life targets**

05 – Application

Applicable to exposed, buried or submerged assets.

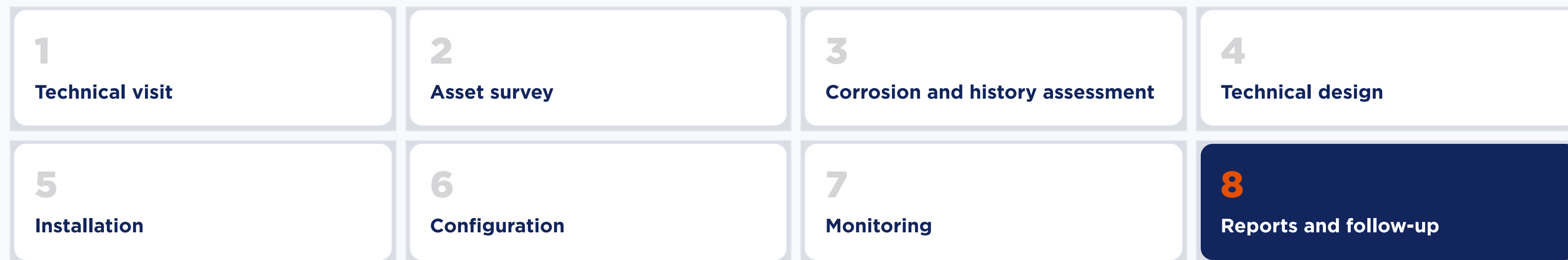
Different environments. Same protection logic.



 Heavy industry	 Pulp and paper	 Chemical and energy	 Marine and offshore	 Ports and terminals
 Water and sanitation	 Infrastructure	 Construction and buildings	 Ceramics and process	 Logistics and retail

05 – Application

From assessment to a system in operation.



Barrier, sacrifice or electrochemical stabilization?

Not all solutions protect in the same way. The difference lies in how each one acts on the metal.

	Paint / Coating	Sacrificial anodes	RUSTLESS Anodic Electronic Modules
Principle	Creates a surface barrier	Protects through a consumable metal	Stabilizes the electrochemical potential
Action on the metal	Temporarily isolates	Compensates for corrosion	Acts on the structure’s electrochemical condition
Dependency	Integrity of the applied film	Consumption and replacement of anodes	Continuous operation of the electronic modules
Complex geometries	Limited protection in critical zones	Conditioned by anode placement	Adaptable to the structure’s geometry
Operation	Requires shutdown and periodic reapplication	Requires access and periodic replacement	Low operational impact, no shutdown
Objective	Delay degradation	Offset metal loss	Protect and stabilize active corrosion

— EXPECTED RESULT

More service life. Less reactivity. More predictability.

The value is in the asset's life cycle — protect CAPEX and reduce OPEX.

SERVICE LIFE

Extend the asset

Slows corrosive progression and avoids early replacement of structures.

OPEX

Less reactivity

Fewer corrective interventions and less reliance on recurring painting cycles.

RELIABILITY

Predictability

A more predictable budget and continuous protection of critical infrastructure.

07 – Proof

SONAE MC

Over 98% reduction in the corrosion rate.

Documented result in a C5 marine environment — very high corrosivity.

● **Unprotected** · up to 1.5 mm/year



● **With Rustless** · 0.025 mm/year

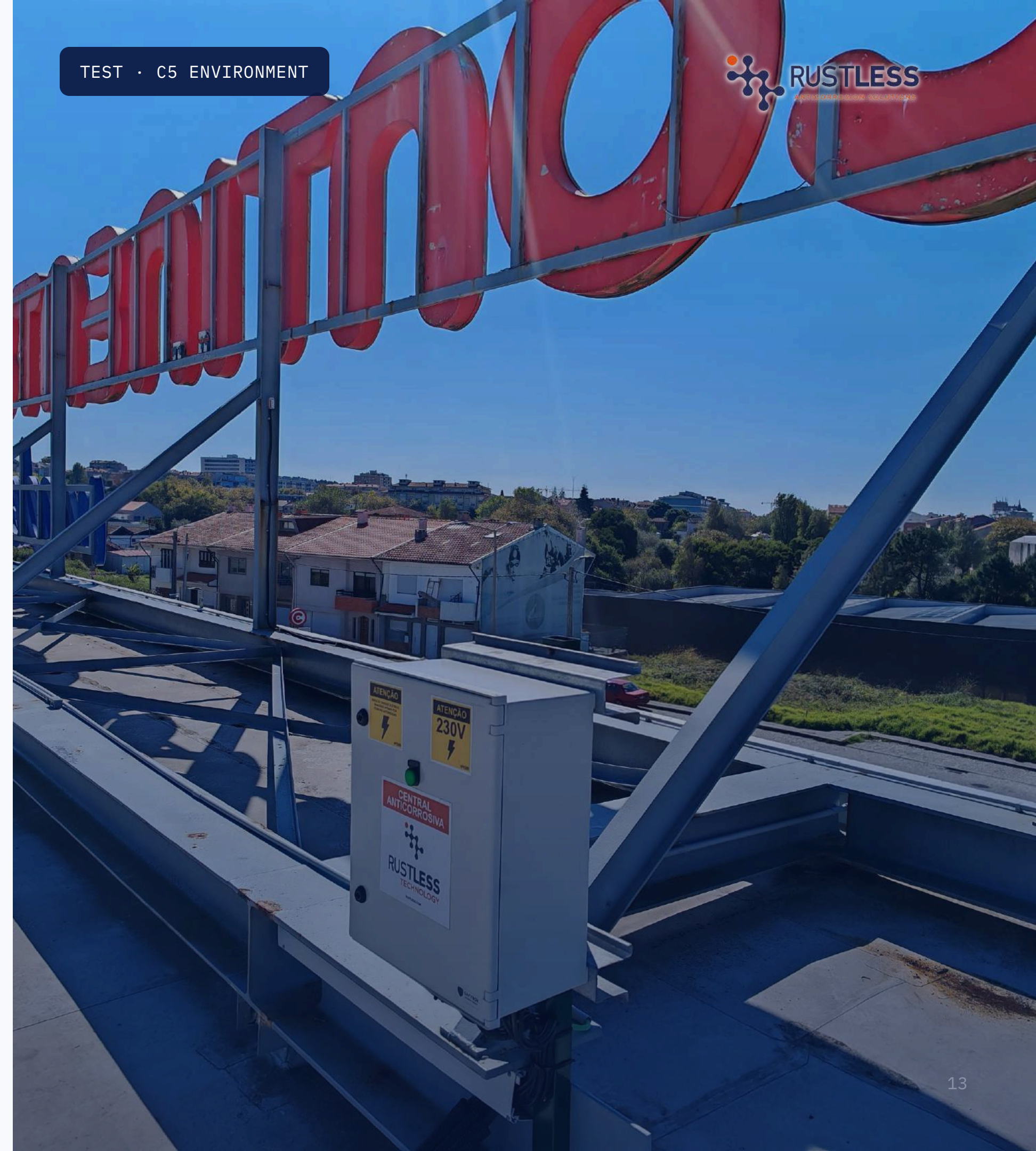
>98%

reduction in the corrosion rate on a carbon-steel structure.

RESULT DELIVERED TO THE CLIENT

Over **EUR 40,000** in reduced maintenance and annual economic impact per store.

TEST · C5 ENVIRONMENT



07 – Proof

LISNAVE

69,000 m² of metal structures protected.

One of the largest anodic electronic anticorrosion projects in Portugal — OPA buildings A, B and C, in a severe marine-industrial environment.

47,000 m² **22,000 m²**
roofing façades

- **Protection with low operational impact**

RESULT DELIVERED TO THE CLIENT

60 days of execution, no structural dismantling, no production shutdown and an **estimated +€1M in savings** compared to a traditional intervention.

07 – Proof

THE NAVIGATOR COMPANY

Protection on critical process equipment.

Applied in a paper-mill environment, subject to humidity, vapors and process agents.

Permanent humidity

Process vapors

Chemical agents

Rustless acts where corrosion is not only atmospheric, but tied to the production process itself.

RESULT DELIVERED TO THE CLIENT

Over **18 months of continuous protection**, stabilizing the active corrosion process with no new filtrate leak points at the weld zones. +
€200,000 in estimated savings compared to traditional repair methods and operational shutdowns.



Applied on critical equipment since 2020.

+5 years
in operation

4+
families of equipment protected

Gas scrubbers

Polishers

Fluoride ducts and filters

Atomizers

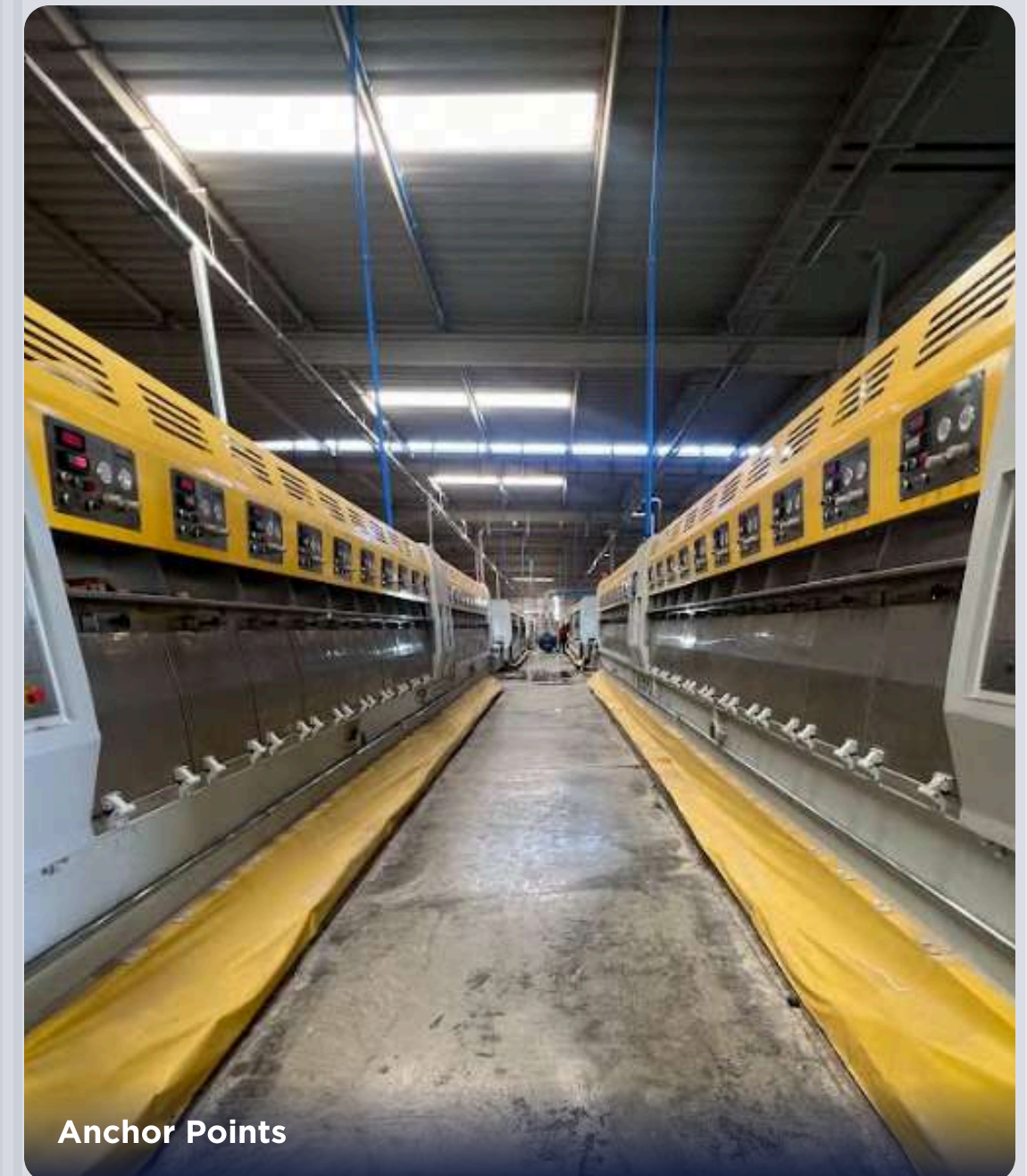
Industrial structures



Scrubbers and atomizers



Polishing line



Anchor Points

Atlas Copco generator — stable after 1,411 days.

Atlas Copco QAC Twinpower generator, protected under a technical follow-up contract with Siemens. The images show the Scania engine structures: active corrosion at installation and electrochemical passivation confirmed in the January 2026 inspection, with no relevant corrosive progression.



March 2022 → January 2026 · 1,411 days

07 – Proof

MARINE ENVIRONMENT • BRAZILIAN NAVY

Internal and external protection in severe marine conditions.

85–90%

efficiency in halting active corrosion processes.

- Prevention of new corrosion points
- Internal and external inspections
- Ultrasonic thickness measurements
- Electrochemical potential measurements

Laurindo Pitta tug • CTE Bauru • S22 submarine

A

Rebocador
Laurindo Pitta

A white tugboat with two prominent orange funnels, sailing on a river with a city skyline in the background. The hull number 'DPHDM 01' is visible on the bow.

B

Contratorpedeiro
Navio-Museu Bauru

A grey submarine, the Be4, docked at a pier. The hull number 'Be4' is clearly visible on its side.

C

Submarino-Museu
Riachuelo S-22

A black submarine, the S-22, docked at a pier with a city skyline in the background.

TRÊS SÍMBOLOS DA NOSSA HISTÓRIA NAVAL



18

Corrosion consumes mineral resources — and up to 5% of GDP.

According to IBRAM, about **30% of the world's iron and steel output** is lost to corrosion, at a cost equivalent to **1 to 5% of GDP** in each country. Extending the metal's service life protects natural resources and reduces the economic impact of replacement.



US\$ 2.5 trillion is the annual global cost of corrosion — about **3.4% of world GDP**. Reducing corrosion is, above all, a strategy for resource and capital sustainability.

08 – Sustainability

Preserving is more sustainable than replacing.

Less waste. Less paint. More service life.



Less premature replacement of structures



Lower material consumption



Fewer paints, solvents and aggressive treatments



Less waste generated



Greater durability and protection of critical infrastructure

A solution tailored to the asset and the investment model.

Purchase, service or technical pilot.

01

Purchase the solution

Acquisition of the technology, installation and technical follow-up.

Investment in an owned asset

02

Service / rental

Continuous operation under contract, with maintenance and technical reports.

Predictable operating cost

03

Technical pilot

Application on a critical asset to validate feasibility and results.

Proof of value before scaling



— NEXT STEP

Turn maintenance into a protection strategy.

We start with one critical asset — a technical assessment to identify recurring corrosion, validate feasibility, size the solution and estimate the operational and economic impact.

More than fighting corrosion, Rustless helps companies protect what cannot fail.



Some of the clients we serve.

Trusted by industrial operators, infrastructure and institutions in Portugal, Brazil and around the world.

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