
LIUXBIG
2026 BIG
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Fundadores

Antonio Espinosa
CEO
Co-Founder of AUARA
World top 15 entrepreneur by OYW

40 year startup experience
30 year automotive experience
7 vehicles developed

David Sancho
CPO
Creator of Boreas Hypercar
Senior designer for Astondoa

150.000 vehicles sold
2 billion € in car sales and rental
Experience in **4 continents**

Othman Ktiri
Board member, investor, advisor
Founder of OK Mobility Group
Board Director at CaixaBank

2016

2017

2022

2024

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LIUX


LIUX
Our story

Industrial Demonstrator of Recyclable Composites.

Beyond the vehicle.. LIUX BIG is an industrial demonstrator designed to validate the use of recyclable composites in real automotive applications, proving that structural composite components can be produced at scale.

From concept to industrial reality. The project demonstrates that lightweight design, recyclable materials and scalable production can coexist within the same platform — an important step from laboratory concepts to industry.


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Production Scale-Up Roadmap.

Phase 1. Technology Validation. — Material selection, process trials and mechanical testing to confirm the flax/RH512 system meets automotive structural requirements.
Phase 2. Demonstrator Production. — Manufacture of the LIUX BIG monocoque at representative scale using Flex Molding and RTM processes with cycle times of 40–50 minutes.
Phase 3. Process Optimization. — Tooling refinement, automation integration and quality assurance development to enable reliable industrial volumes.
Phase 4. Industrial Production Capacity. — Full-scale manufacturing readiness for recyclable composite automotive structures — validated, repeatable and commercially viable.

Challenges of Electric Mobility.

Weight reduction..
Electric mobility requires lightweight solutions to maximize energy efficiency and vehicle range. Every kilogram saved directly improves battery performance.

Carbon footprint..
Future mobility must reduce lifecycle carbon impact. Traditional composites solve the weight problem but create challenges at end of life due to non-recyclable thermoset matrices.

Material circularity..
Economic viability and regulation require solutions that are not only lightweight but also recyclable — closing the material loop from production to end of life.

Monocoque Structural Concept.

Integrated structure.. The LIUX BIG architecture is based on a structural composite monocoque. Structural and functional elements are integrated into a single composite body, reducing part count and simplifying assembly.

Efficiency by design.. Compared with conventional body architectures, the monocoque approach reduces the number of components by approximately 40%, improving structural efficiency and manufacturing simplicity.

Why Natural Fibers?

Low density & renewable origin..
Flax fiber combines low density with fully renewable agricultural origin, offering a significantly lower environmental footprint than glass or carbon fiber. Linen achieves an estimated negative carbon footprint of -0.67 kg of CO_2 per kg of linen fabric.

Vibration damping..
Natural fibers provide excellent vibration damping characteristics — improving NVH performance while maintaining structural functionality in automotive applications.

Distinctive surface aesthetic..
Flax creates a distinctive visible composite surface that eliminates the need for paint and primer, reducing manufacturing complexity and VOC emissions.

Flax Fiber + SWANCOR RH512

Flax fiber reinforcement.. Provides lightweight performance, renewable content and excellent vibration damping. Low density combined with strong mechanical properties makes it ideal for large structural automotive components.

SWANCOR RH512 recyclable resin.. Provides recyclability, industrial processability and structural reliability. Very low viscosity ensures excellent impregnation of flax fibers, low laminate porosity and cycle times of 40–50 minutes.

Monocoque with Flax Fiber + SWANCOR RH512

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Why RH512?

Low viscosity..
Excellent impregnation of flax fibers and very low laminate porosity — essential for structural composite quality at industrial scale.

Surface finish..
Provides a surface finish close to Class-A requirements, enabling visible composite applications without additional paint or primer operations.

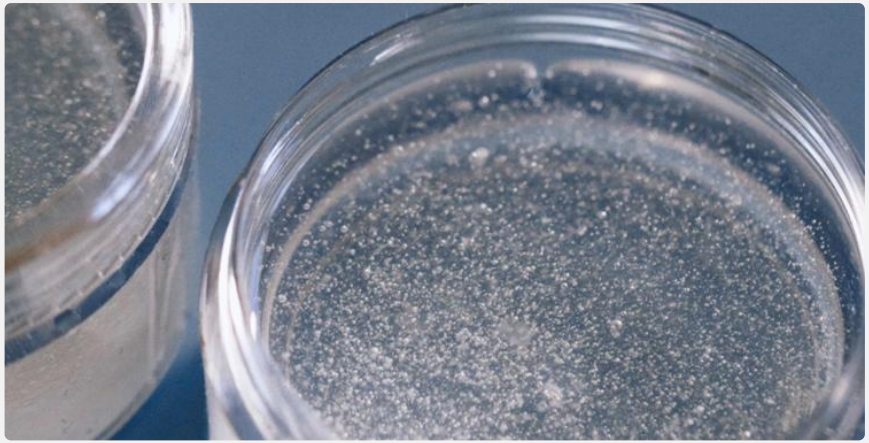
Industrial cycle times..
Supports production cycle times of approximately 40–50 minutes — compatible with automotive manufacturing volumes and cost targets.

Mechanical performance..
Structural properties suitable for automotive composite applications, with strong fiber-matrix adhesion enabling efficient load transfer.

Recyclability..
Specifically designed for end-of-life recycling via the CleaVER process, enabling recovery of both fiber and resin-derived oligomers.

Process flexibility..
Compatible with both Flex Molding and RTM manufacturing routes, allowing adaptation to different production volumes and geometries.

RH512 Technical Performance.



Low viscosity processing..
RH512 viscosity enables excellent fiber wet-out and laminate quality. Reduced void content improves interlaminar properties and structural reliability across large monolithic components.

Structural properties..
Mechanical performance supports structural automotive applications. Designed specifically for large composite parts where consistent properties across the laminate are critical.

Fiber-matrix interaction..
Excellent adhesion between RH512 and flax fiber enables efficient load transfer and reliable interlaminar performance — the foundation of structural composite durability.

Manufacturing Process.

Flex Molding.. Cost-effective solution for large monolithic structures. Provides the flexibility to manufacture complex geometries at representative automotive scale with the RH512 resin system.

RTM — Resin Transfer Moulding.. High repeatability and automation potential. Closed-mould process using the same RH512 system, adaptable to higher production volumes with consistent part quality and dimensional accuracy.

Flax / RH512 Composite Performance.

Structural properties validated..
Testing demonstrates that the flax-RH512 system delivers mechanical properties suitable for lightweight structural automotive applications.
Strong fiber-matrix adhesion allows efficient load transfer, reliable interlaminar performance and consistent quality — essential for structural monocoque components.

The Material Becomes the Design.

The visible composite surface is the finish.
By eliminating paint and primer operations, LIUX BIG reduces manufacturing complexity, VOC emissions and energy consumption. The natural flax texture creates a distinctive and authentic visual identity — directly communicating the sustainability credentials of the vehicle through the material itself.

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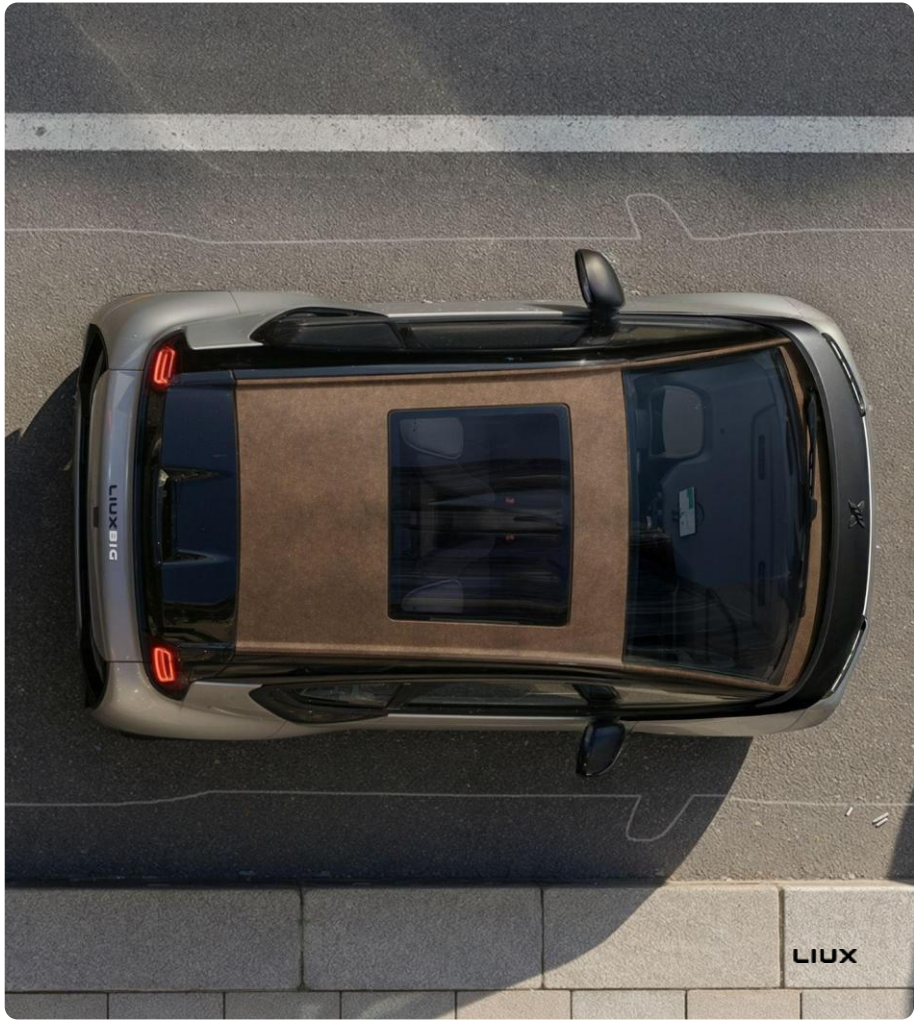

End-of-Life Recycling with CleaVER™.

Designed for recycling..
RH512 was specifically engineered to enable end-of-life recycling through the CleaVER chemical process — unlike conventional thermoset composites which cannot be recycled.

Fiber recovery..
The CleaVER process recovers flax fibers from composite waste, allowing them to be returned to the value chain as a secondary raw material.

Oligomer recovery..
Resin-derived oligomers are also recovered and can re-enter the production cycle. This transforms composite waste into a reusable resource, enabling true material circularity.

Why Recover Oligomers?

Fibers are valuable — oligomers are essential.. The largest environmental contribution within the composite system comes from the resin matrix. Recovering oligomers avoids the production of virgin resin, generating the greatest environmental benefit within the recycling cycle.

Circularity by design.. Oligomer recovery changes end-of-life management from waste disposal into material recovery. It enables the resin component to re-enter the production cycle, closing the loop and supporting a truly circular composite material system.

Environmental Impact: Comparing End-of-Life Routes.

Energy recovery..
The conventional route — incineration for energy. Destroys all material value and generates the highest CO2 emissions. Provides no material recovery benefit for either fibers or resin components.

Pyrolysis..
Partial material recovery. Degrades important composite components during thermal processing, recovering some carbon content but losing much of the resin matrix value and producing significant emissions.

CleaVER process..
Chemical recycling that recovers both flax fibers and resin-derived oligomers. For 10 tonnes of composite waste, CO2 emissions are reduced by approximately 95% compared with energy recovery.

Lower Impact Across the Lifecycle.

Raw materials..
Flax fibers have a significantly lower carbon footprint than glass or carbon fiber, reducing environmental impact at the material production stage.

Manufacturing..
Closed-mould processes with RH512 minimize waste and solvent use. Approximately 35% lower manufacturing carbon footprint compared with conventional composite solutions.

Surface finish..
Visible composite surfaces eliminate paint and primer operations — reducing VOC emissions, energy consumption and process complexity.

Vehicle use..
Lightweight monocoque structures reduce vehicle mass, improving energy efficiency and extending battery range throughout the operational life of the vehicle.

End of life..
CleaVER recycling recovers fibers and oligomers, dramatically reducing end-of-life emissions compared with incineration or landfill of conventional composites.

Circularity..
Recovered materials re-enter the value chain — transforming end-of-life composite waste into feedstock for new production cycles.

Why This Composite Platform Matters.

Performance..
The flax-RH512 system delivers mechanical properties suitable for structural automotive applications — proving that sustainable materials do not require performance compromises.

Industrialization..
The platform is production-ready. Cycle times, process compatibility and surface quality have all been validated at representative automotive scale with both Flex Molding and RTM routes.

Circularity..
CleaVER recycling closes the material loop. Both fibers and oligomers are recovered at end of life, enabling a genuinely circular composite manufacturing system.

A Truly Sustainable Value Chain.

Renewable fibers..
Agricultural flax provides lightweight reinforcement with renewable origin and a lower carbon footprint than synthetic alternatives.

Recyclable resin..
SWANCOR RH512 supports efficient closed-mould processing and is specifically designed for end-of-life chemical recycling.

Visible composite surface..
Eliminates paint and primer — reducing process steps, VOC emissions and energy consumption across the manufacturing phase.

Lightweight structure..
Monocoque architecture reduces part count by ~40%, improving vehicle efficiency during operational use and reducing total embodied energy.

CleaVER recycling..
Chemical recovery of both flax fibers and resin oligomers at end of life, returning valuable materials to the production cycle.

Circular by design..
Sustainability is integrated from raw material selection to end-of-life recovery — not added as an afterthought.

A New Standard for Electric Mobility.

~95% lower CO_2 at end of life. — CleaVER chemical recycling vs. conventional energy recovery for 10 tonnes of composite waste.
~35% lower manufacturing carbon footprint. — Compared with conventional composite manufacturing solutions — validated across the production process.
~40% reduction in structural complexity. — Monocoque architecture reduces component count versus conventional body-in-white assembly approaches.

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A Partnership for Sustainable Mobility.

LIUX..
Contributes the vehicle platform, monocoque architecture and the vision for next-generation electric mobility — demonstrating that sustainable design and performance are fully compatible.

SWANCOR..
Contributes RH512 recyclable resin technology and the CleaVER end-of-life recycling process — the material innovation that makes true composite circularity possible.

Global Composites..
Provides technical support, industrial implementation expertise and European integration — bridging material technology and automotive production at scale.

Lightweight. Recyclable. Industrialized.

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