VESTEL

**VISUAL SOLUTIONS
SUSTAINABILITY
2023**

VS Product Management & Marketing Department

ZORLU

ZORLU HOLDING SMART LIFE MANIFESTO

As Zorlu Holding, we are responding to the change in the world with our Smart Life 2030 strategy. With our responsible investment holding approach, which prioritizes opening new horizons, we focus on creating the highest value in environmental, social and governance (ESG) areas when investing for our Group, our companies, our stakeholders, the society and the future.

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Our Sustainability Targets

- Net zero emissions by 2030
- Reduce waste by 50% by 2030
- Achieve zero waste by 2050
- Recycling 50% of the water used

Regenerative Business Models

- Efficient manufacturing
- Renewable energy
- Smart manufacturing
- Smart transportation
- Smart home systems
- Sustainable products
- Investing In Next-Gen Ventures

Human Centric Ecosystems

- Social Innovation
- Investing in Youth and the Future
- Technology and Creativity
- Corporate Volunteering
- Gender Equality
- Innovation and Entrepreneurship
- A Purpose-Oriented Space
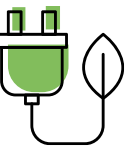
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Our commitments to Plastic Pollution

Vestel Electronics and Vestel White Goods are signatories of the Business World Plastics Initiative, showcasing our firm commitment to the cause.
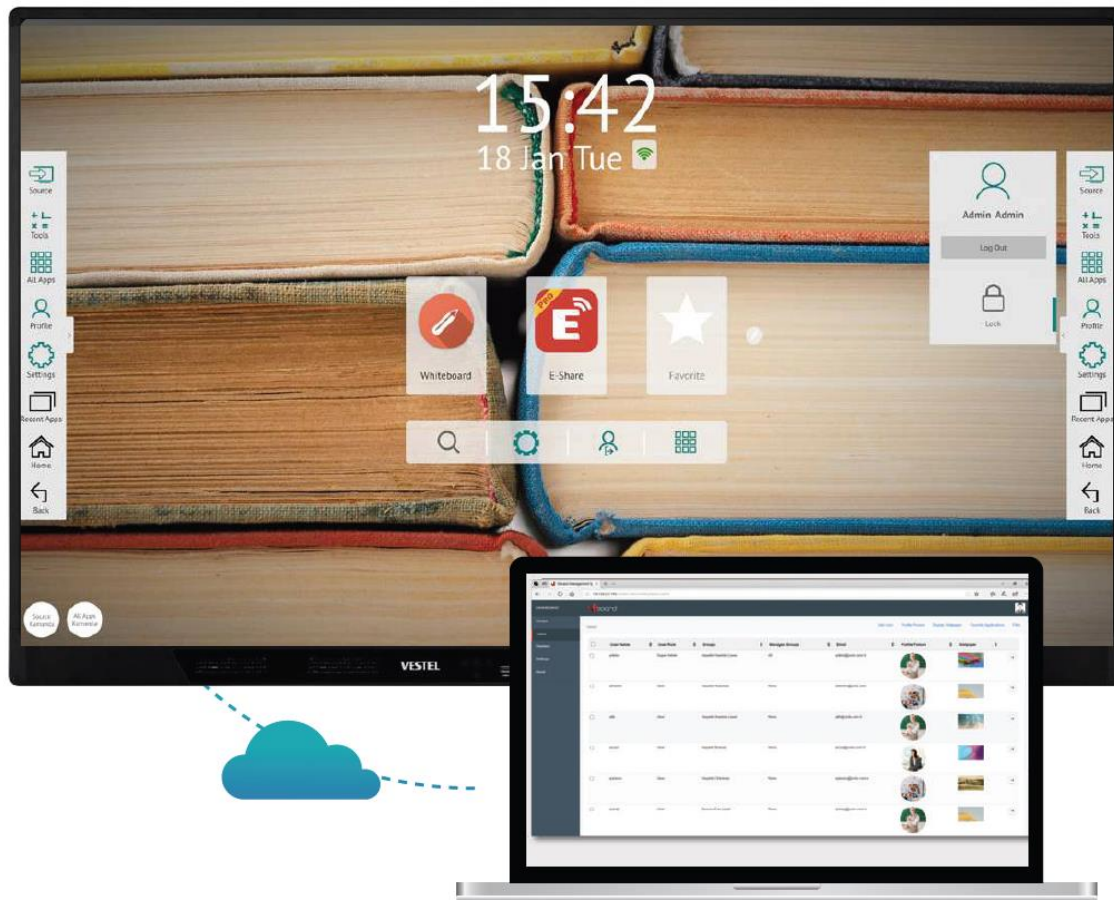
Target:

Our company-wide objective is to decrease the amount of unprocessed plastic by 10,799 tons and use 8,968 tons of recycled plastic by the year 2023, using 2020 as the baseline year.

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Vestel Visual Solutions Sustainability Approach

We 'save energy' through multiple usage scenarios with management tools

1) Vestel Account Management (AMS) is a cloud-based software solution (SW) intended for education applications. The solution facilitates seamless and intelligent management of education boards (IFPDs) for IT administrators in schools. Alongside personalized profile customization for each teacher account, it offers the convenience of remote display control.

2) Wizard Control Software is being designed for digital signage applications, allowing system integrators (SIs) to control the hardware functions of a signage display.
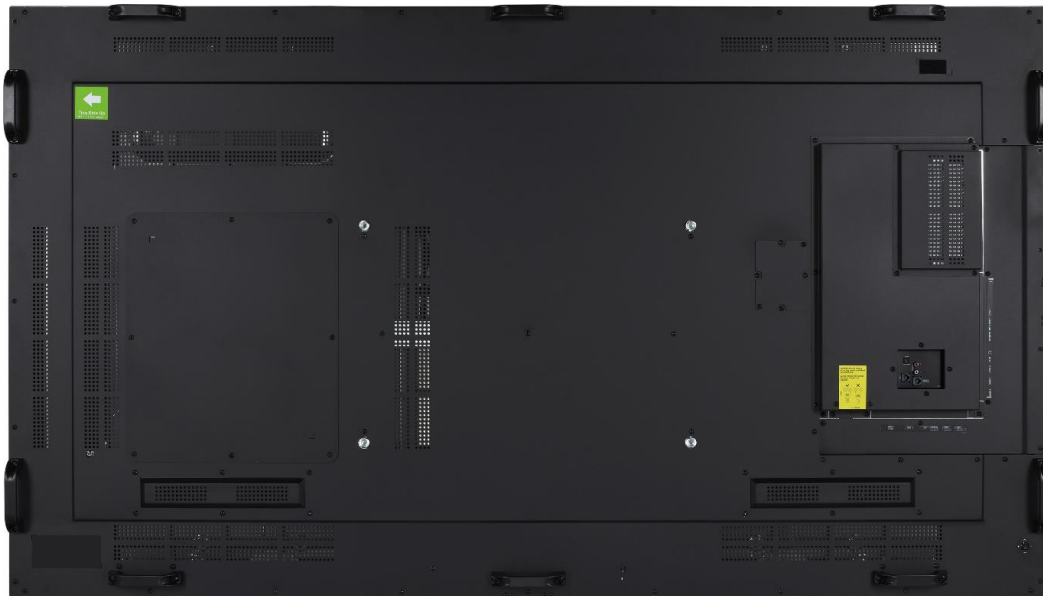
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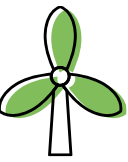
3) Sensorbox is a smart sensor solution which can be combined with digital signage displays and IFPDs. It provides an efficient way to 'save energy' through many different applications.

- The Temperature and Air Quality Sensors focus on adjusting air conditioning systems to promote the circulation of fresh air and create a healthier environment.

- Ambient light sensors adjust the screen brightness to decrease eye strain during close contact with the display.

- Motion sensors will check room activity and might manage the display's power consumption via automatic power control.

- CO_2 sensor gives the level of density to take necessary precautions for the room management.

Temperature	Humidity	PIR	eCO2 Level	Air Quality	Ambient Light Sensor
32 °C	45.89 %	Dynamic	00.00 %	info	On

Temperature	Humidity	PIR	eCO2 Level	Air Quality	Ambient Light Sensor

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# Vestel Visual Solutions Sustainability Approach

We increase the 'usage of recyclable materials'

1) 86" & 98" displays are designed to be made of metal cabinets. The steel sheets utilized in large-sized displays are designed to facilitate recycling at the end of their lifecycle. By enabling reusability, these products serve as valuable raw materials for the creation of new displays.

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2) The engineering waste (runner) generated during the production process of 32'' Signage Plastic Front Frames is effectively repurposed in the manufacturing of DS Plastic Back Covers.

Runner   **Recycled Back Cover**

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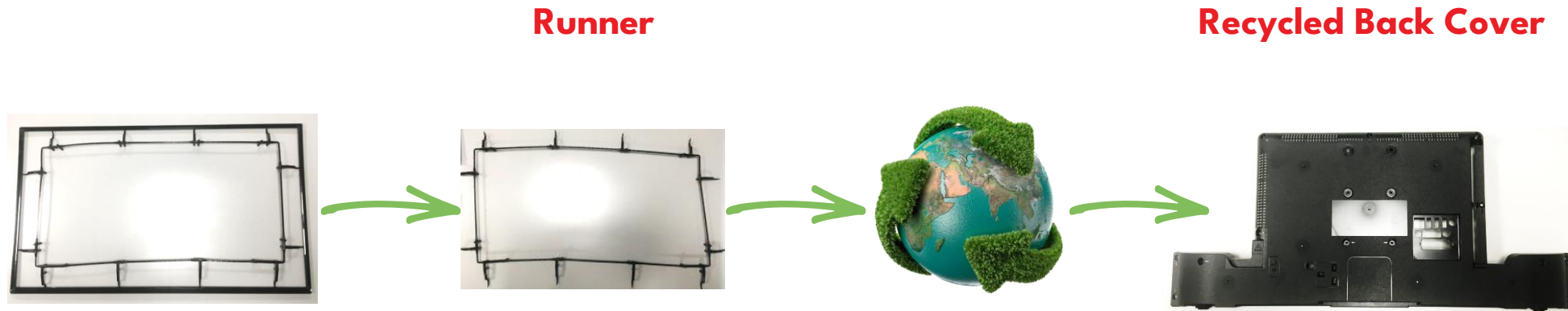
3) We continue to expand our commitment to responsible sourcing of paper, with our FSC-certified packaging program. 100% recycled and recyclable carton box is implemented as optional packing material for 32" to 50" displays. DQA approvals have been completed for the addition of FSC (Forest Stewardship Council) logos to Vestel displays.
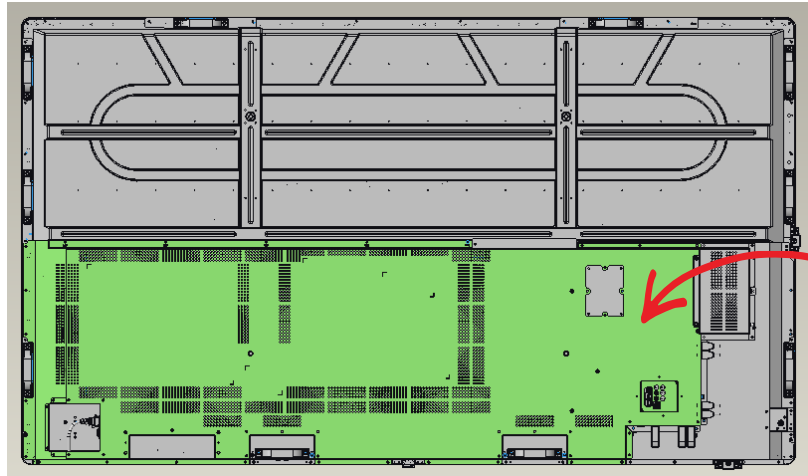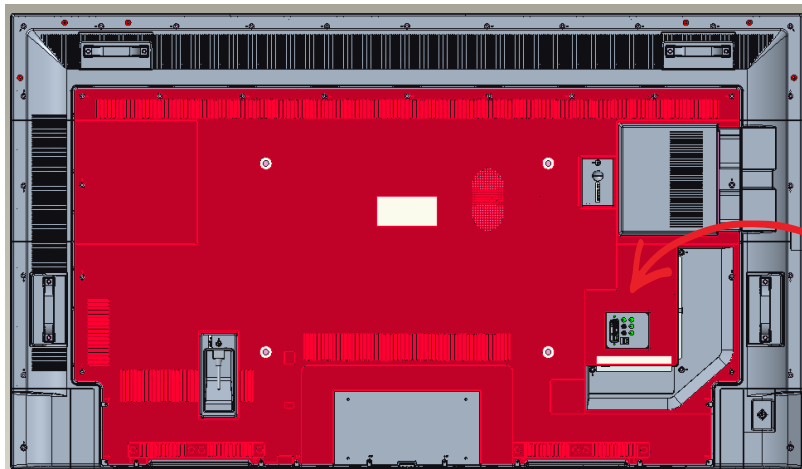
Vestel Visual Solutions Sustainability Approach

Service Cover

Service Cover

We target 'repairability' during the design process

Recognizing the significance of product repairability in fostering environmental consciousness and efficient resource utilization, we place great emphasis on serviceability during the mechanical design process of our displays. Our goal is to enhance and expedite the repairability of our products. To achieve this, we have designed the back cover as a separate service cover, independent of the frame, for displays larger than 65". This design allows direct access to critical components. Additionally, certain displays feature a secondary service cover on the back cover, further facilitating maintenance and repairs.

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Vestel Visual Solutions Sustainability Approach

We facilitate 'easier and simpler setup'

1) Our digital signage displays incorporate an Android System-on-Chip (SoC) solution, enabling seamless integration with a wide range of Content Management Systems (CMS). By integrating CMS directly into the SoC, our displays offer cost-effectiveness, reliability, and remote management capabilities.

   With SoC-integrated CMS solutions, there is no requirement for any external devices, making installation faster and simpler. This not only saves time but also reduces costs significantly, as the price of external media players can sometimes be comparable to that of the displays themselves. Additionally, the integration of CMS into the SoC eliminates the need for maintenance and support of external players and cables. This streamlined approach ensures a hassle-free and cost-effective digital signage setup.

COST	RELIABILITY	REMOTE MANAGEMENT
External Media Player Maintenance Support Cabling Installation	Easy installation Time saving Plug and play less components = less points of failure	Monitoring Scheduling Device Management

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For instance, 11 components including displays, external players, cables are needed to install just 3 displays if there is no SoC. With SoC, this number decreases to 3, just the displays. By reducing the number of components involved, the failure rate is also diminished, as there are fewer points of potential failure.

LEGACY   **CUTTING-EDGE**

11 components   3 components

SoC-integrated CMS solutions enable remote management of displays from the CMS server. Administrators can monitor, schedule, turn on/off displays, and view playing content remotely. This eliminates the need for field visits when troubleshooting issues.

Vestel Sustainability Presentation 2023

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We facilitate 'easier and simpler setup'

2) IFX products offer the option of integration with NFC cards, microphones, and proximity sensors. By incorporating these components directly into the product, the need for external devices is eliminated, reducing potential points of failure. This embedded component structure enhances reliability and simplifies the overall system setup.

Sustainability benefits:

- Resource efficiency

- Durability

- Design simplicity

- Enhanced user convenience.

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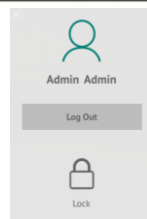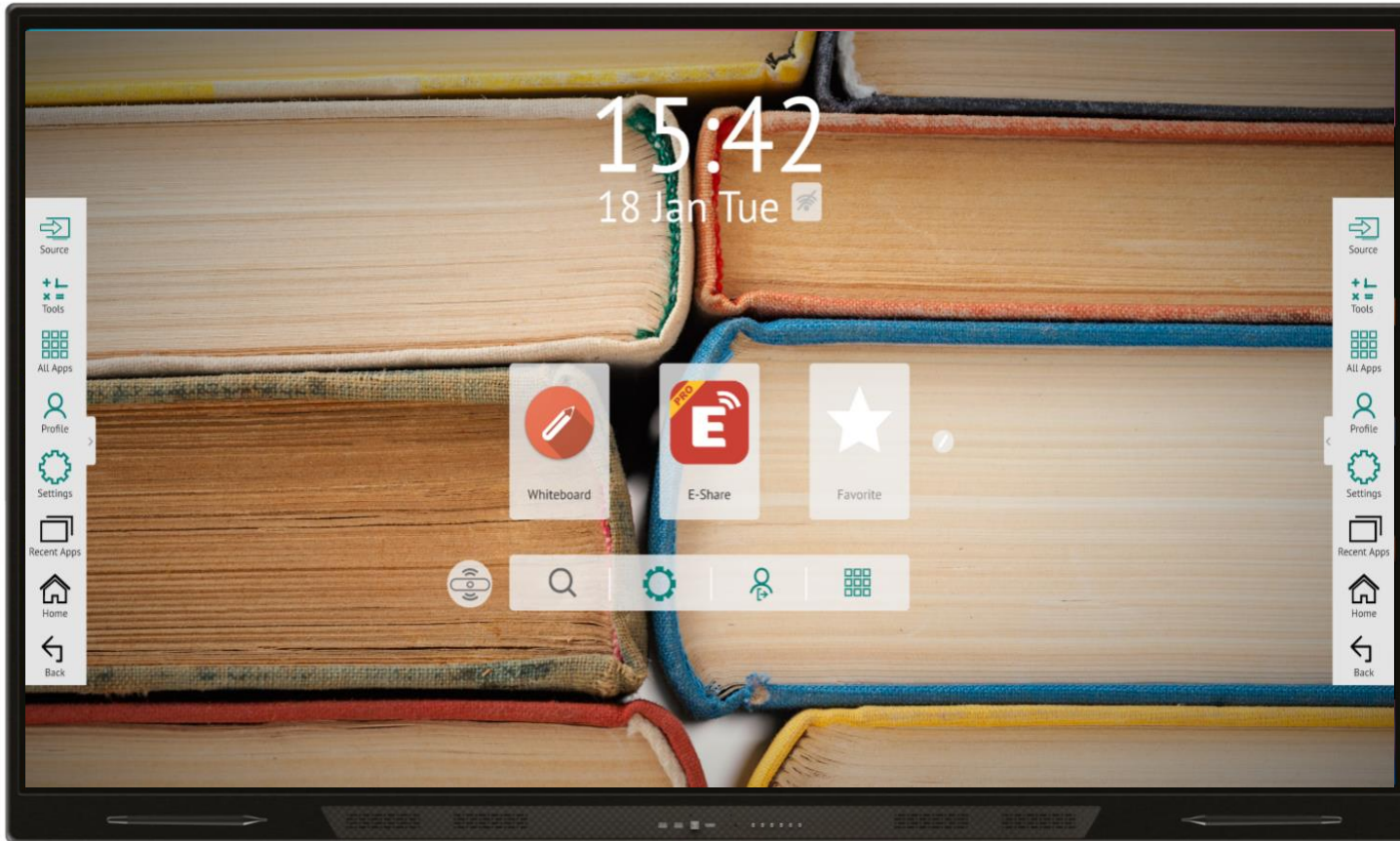
Future Goals

Designing more efficient backlight structures by

1) Incorporating Mini LED backlight technology, which represents a significant advancement in sustainable display technology. This approach combines improved visual performance with reduced energy consumption and environmental impact.

2) Optimizing the driven voltage and current of LED units to decrease power consumption, aligning with our sustainability perspective.

3) Increasing the utilization of optical films such as DBEF in the optical design of screens. These films help reclaim light lost within panel components, contributing to improved efficiency and sustainability.

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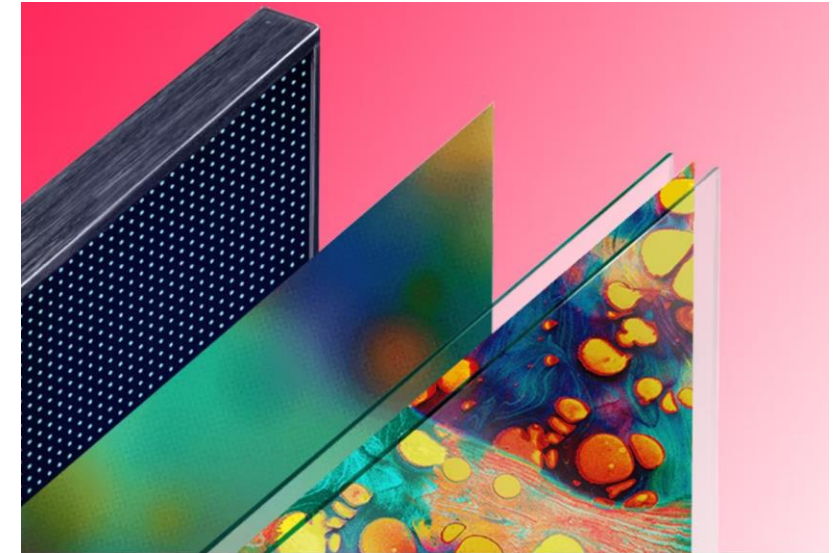
Applying for efficiency certification

Energy Star certification plays a crucial role in promoting energy-efficient digital displays. Manufacturers who adhere to the stringent criteria set by Energy Star showcase their dedication to sustainability and environmental responsibility. Energy Star-certified digital displays are designed to consume less energy while maintaining optimal performance and visual quality. Therefore, we are fully committed to participating in the Energy Star program as a testament to our commitment to energy efficiency and environmental responsibility.

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Future Goals
Full product life extension with France Repair Index Program

The aim of the French Repair Index is to encourage consumers to choose more

repairable products and to encourage manufacturers to improve the

repairability of their products.

Index Criteria

Technical Documentation

Easy Detachability
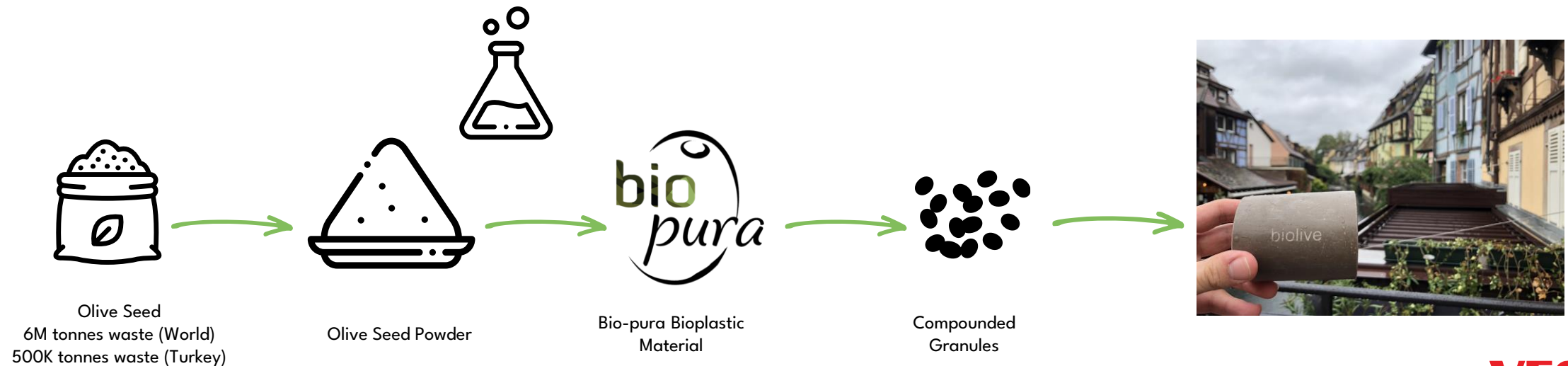
Spare Parts Availability

Spare Parts Prices

Product Specific Aspects

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Reduce the use of plastic

1) Vestel is committed to utilizing biolive production, which involves utilizing waste olive seeds to create bioplastic as an alternative to traditional plastic materials. In our white goods product category, we have successfully implemented the use of olive pits instead of plastic. We are now actively working towards expanding this sustainable approach to our Visual Solutions line-up. Through these efforts, we aim to contribute to a greener and more environmentally friendly production process.
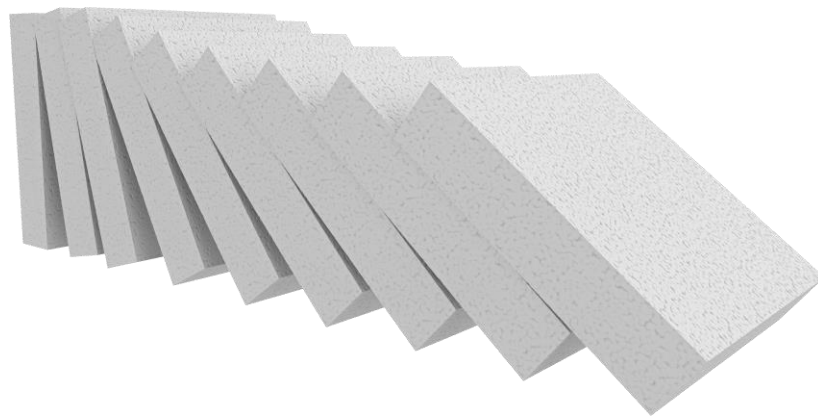

Olive Seed
6M tonnes waste (World)
500K tonnes waste (Turkey)

Olive Seed Powder

Bio-pura Bioplastic
Material

Compounded
Granules

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2) We continually improve our packaging design with the goal of minimizing environmental impact while always exceeding user expectations. When evaluating packaging options, we consider substituting EPS plastic with corrugated cardboard.

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THANK YOU

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