

VitrA

Villeroy & Boch
1748

engers

Eczacıbaşı Building Products - Tiles
Integrated Sustainability Report
2023

Building a Healthier Future, Together

Story of Our Ambition

ECZACIBAŞI
BUILDING PRODUCTS

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Overview of Eczacıbaşı Building Products - Tiles

GRI 2-1

Established in 1991, Eczacıbaşı Building Products – Tiles is a leading manufacturer of ceramic and porcelain tiles that offers sustainable and systematic solutions, responding to the ever-changing needs of customers and business partners. Spanning a vast range of styles developed for all types of indoor and outdoor areas from the kitchen and living room through to terraces and swimming pools, Eczacıbaşı Building Products – Tiles' products today extend well beyond the boundaries of the bathroom.

With a blend of cutting-edge innovation and well-established brands, including VitrA, Villeroy & Boch, and Engers, Eczacıbaşı Building Products – Tiles is transforming Türkiye's ceramic production heritage into an ever-expanding product offering, admired by customers in nearly 90 countries around the world. The company operates three production facilities, two in Türkiye, and one in Russia, with an annual production capacity of **30 million m²**.

As of 2023, Eczacıbaşı Building Products – Tiles is Türkiye's number one exporter to the European Union, with over 30 years of experience, total net sales of **€350 million** and almost **2000** employees.

For additional details regarding the history of our organization, please refer to [our website](#).

Overview of The Eczacıbaşı Group We Part of

Eczacıbaşı Group, the leader of a modern, quality, and healthy lifestyle for more than eighty years, was founded in 1942 and has been one of Türkiye's leading companies since then, with a total of 47 companies, 17 of which are building product plants, more than 13,250 employees, and a consolidated net revenue of €2 billion* in 2023. Eczacıbaşı's core sectors are centered around building products, consumer products and healthcare, further complemented by additional ventures in information technology, natural resources, and property development. In Türkiye, the Group occupies a preeminent position in the majority of its sectors, leveraging its highly efficient distribution networks for building products, pharmaceuticals, and fast-moving consumer goods. On a global scale, Eczacıbaşı has positioned itself as a premier supplier of bathroom and tiling solutions, catering to the needs of both residential and commercial spaces. The Group is also a major exporter of a diverse range of products, including tissue paper, electronic smart cards, and industrial raw materials such as clay and feldspar.

GRI 2-1

Group Mission

The Eczacıbaşı Group's mission is to be a **pioneer of modern, high quality and healthy lifestyles**. Accordingly, the Group encourages each of its companies to surpass established standards and raise consumer benchmarks of product and service quality. Through sponsorship and responsible corporate practices, it also promotes social and economic development that nurtures cultural and scientific activity, protects the environment, and preserves scarce natural resources.

Group Values

As members of the Eczacıbaşı Group:

- We hold our **dignity and self-respect** above all else. Ethical business principles underpin our business activities.
- Our management style **respects the individual**. We believe that each of us has the right to learn about issues that affect us and to voice our opinions on these. We regard it our duty, as well as our right, to challenge our personal limits and develop our abilities.
- We believe that **quality is a way of life**. In all that we do, in every product and service we provide, we aim for the highest level of quality. Our customer is the focal point of this pursuit of quality.
- We are **open to the world and to change**; by nature, we are **pioneering and entrepreneurial**. The search to innovate in every area of activity is a fundamental aspect of our corporate tradition.
- We uphold the tradition of **servicing our community** because we esteem our society and respect our environment.
- We recognize that **participatory management** gives each of us the responsibility of working forcefully towards the objectives and goals of our institution. We are careful to observe the rules of our work environment as we understand that this reflects our respect for our colleagues.



* It has been rearranged according to inflation accounting.

Our Organization, Brands and Products

GRI 2-1

3
Brands



3
Production Plants



90
International Markets



+2,000
Overall Employment



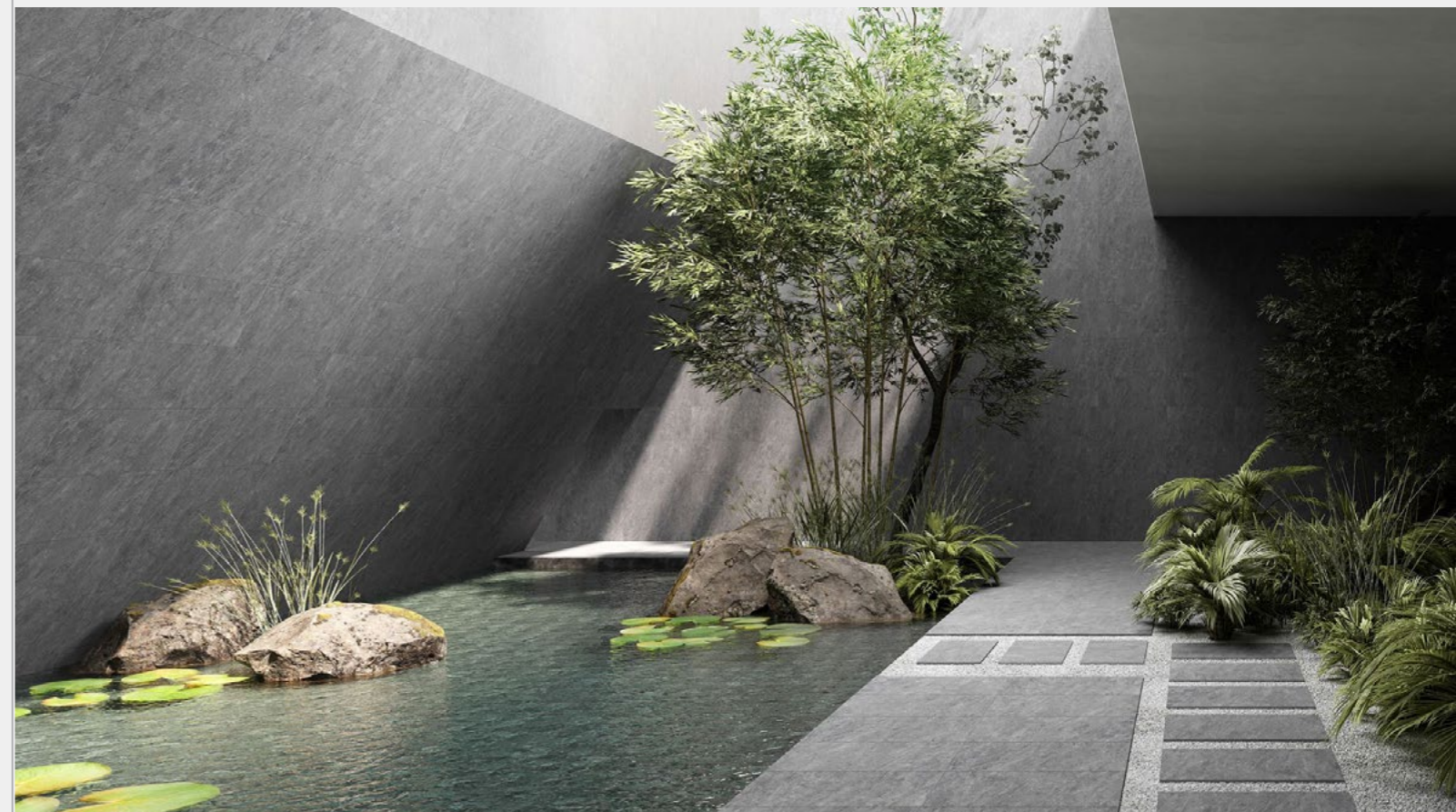
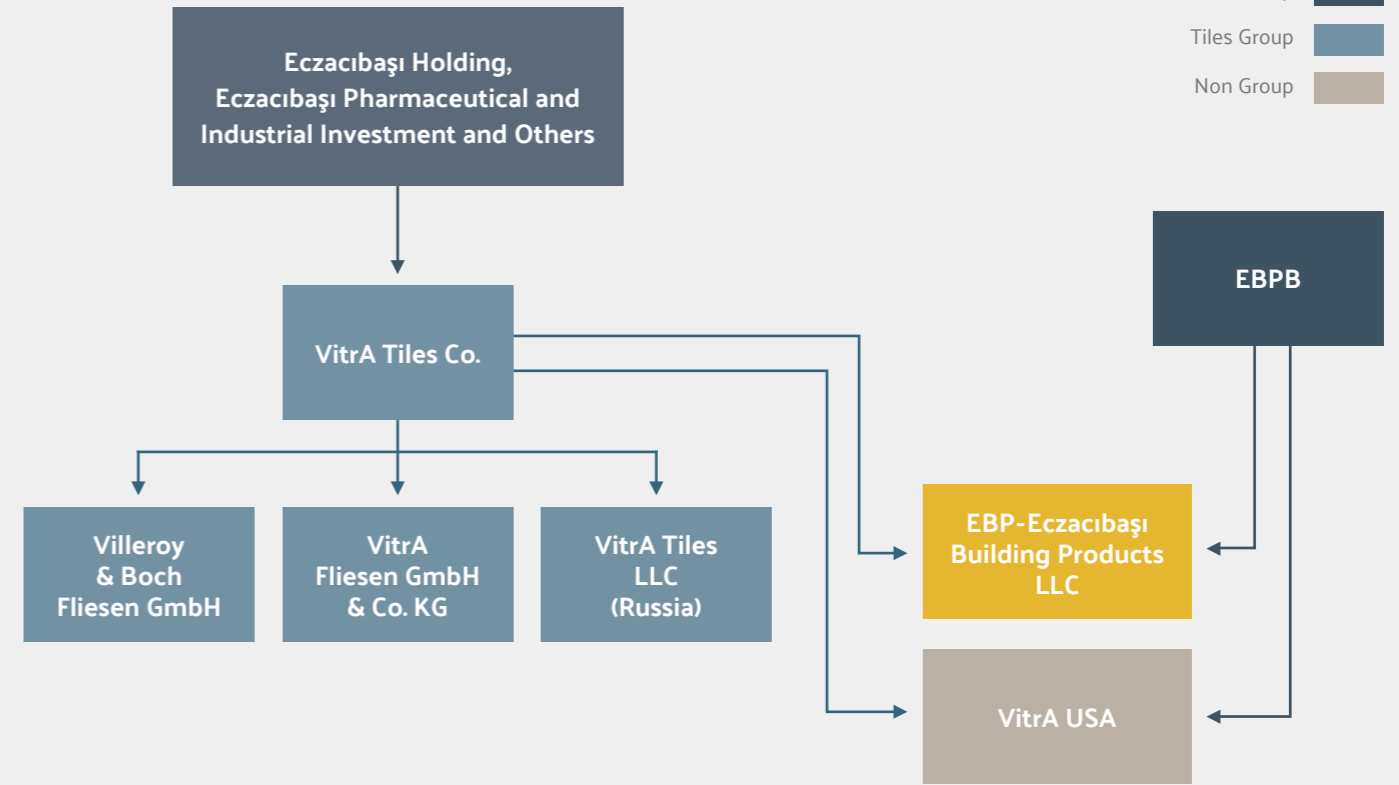
€350 Million
Net Sales



Eczacıbaşı Building Products – Tiles (“VitrA Tiles”) specializes in the manufacturing of ceramic and porcelain tiles for various living spaces, including bathrooms, indoor and outdoor pools, gardens, and building exteriors. These products have been offered under the VitrA brand in Türkiye since 1991. Eczacıbaşı Holding is the ultimate beneficial owner of Eczacıbaşı Building Products – Tiles. The company holds the majority of shares in the Tile Division of Villeroy & Boch (Villeroy & Boch Fliesen GmbH), one of the world’s oldest and most renowned ceramics brands. V&B Fliesen runs our sales operations, located in Germany, for high-quality porcelain tiles of the Villeroy & Boch brand.

In 2006, Eczacıbaşı Building Products – Tiles acquired engers Keramik (both the brand and its production facilities), a well-established German tile brand with a history dating back to 1911. **Currently, VitrA Fliesen, a subsidiary of VitrA Tiles, oversees the marketing, sales, and distribution of engers branded tile products.** Adhering to its global brand strategy, the company has expanded its operations to Russia through its subsidiary, VitrA Tiles LLC. Eczacıbaşı Building Products – Tiles also conducts sales and marketing activities through its joint sales company, “Eczacıbaşı Building Products LLC,” and holds shares in VitrA USA, together with Eczacıbaşı Building Products - Bathroom (EBPB).

GRI 2-1



Brands

GRI 2-1

VitrA

As the flagship brand of Eczacıbaşı, VitrA develops extensive range of tiles for a world where needs and tastes are growing ever closer, and ever more singular at the same time, and an unshakable commitment to sustainability.

Spanning a vast range of styles developed for all types of indoor and outdoor areas from the kitchen and living room through to terraces and swimming pools, VitrA tiles today extend well beyond the boundaries of the bathroom.

Eczacıbaşı Building Products – Tiles manufactures in Türkiye with two facilities and Russia with one facility in each location.

Türkiye

VitrA Tiles Co.
2 facilities

Russia

VitrA Tiles LLC
1 facility



Villeroy & Boch

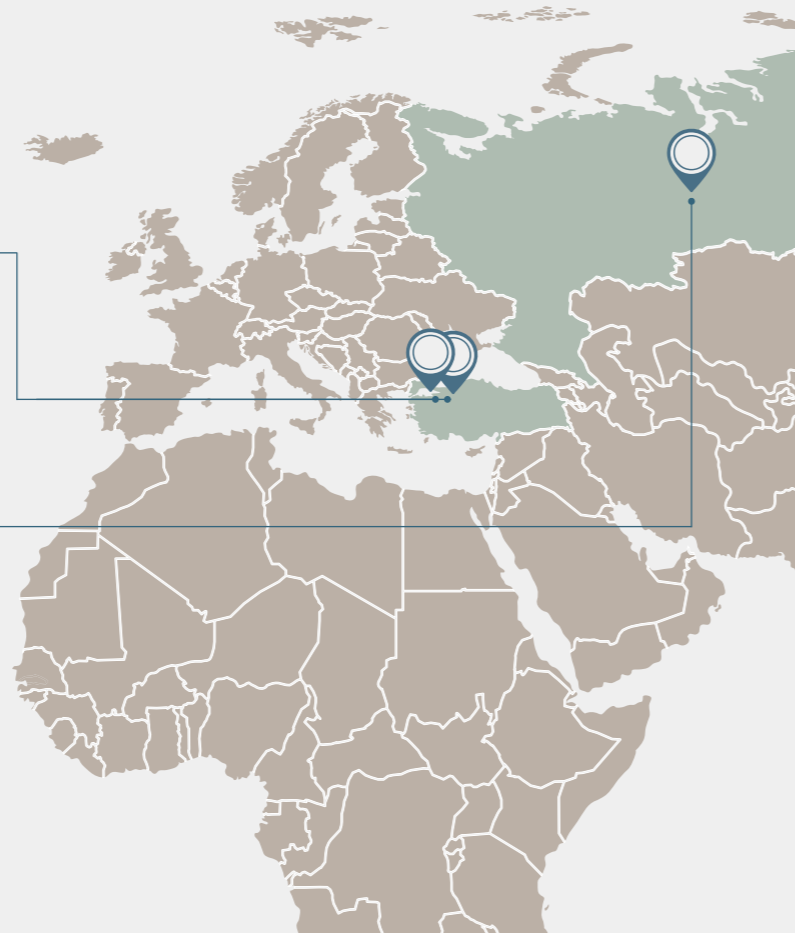
As the world's oldest and best-known ceramics brand, Villeroy & Boch is a renowned brand in the ceramic tile industry that produces high-quality tiles with unique designs and advanced technology.

With over 260 years of experience, the brand draws inspiration from the latest interior design trends, offering collections that range from classic to contemporary styles.

engers

engers high-quality, reliable, and award-winning tile series that go beyond traditional applications, catering to all types of indoor and outdoor areas, from kitchens and living rooms to terraces and swimming pools.

The brand's extensive collection of tiles includes a variety of colors, formats, and decorative designs, allowing customers to showcase their unique style and personalize their living spaces.



Product Portfolio and Revenue Share

GRI 2-1



Porcelain Tiles

65%



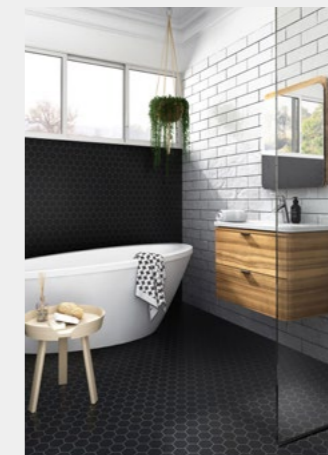
Wall

19%



Technical Porcelain

6%



Floor

4%



Mosaics

1.5%



Others

3%

Year in Review

Here are the key performances achieved by Eczacıbaşı Building Products - Tiles in 2023.

Financial and Economic Performance

€350 Million

Total net sales*



75%

Share of International sales



Investing in our Planet

3.76 MWp

Renewable energy installed capacity



94.03 GWh

Green electricity procurement



89%

Electricity use from renewable sources ✓

12%

Decrease in energy intensity compared to 2020

38%

Decrease in water intensity compared to 2020



Investing in People

38.2%

Total share of women professionals¹ ✓



38.8%

Women among new recruits¹ ✓

20%

Women in management positions¹ ✓

16.3

Training hours per talent² ✓



51.43

Training hours per employee³ ✓

1.82

Lost Time Incident Rate (LTIR) ✓

2.2

Total Recordable Incident Rate (TRIR) ✓

Investing in Future

€1.35 million

R&D budget*



4

Registered industrial property applications



* It has been rearranged according to inflation accounting.

¹ White-collar employees in Türkiye with a full-time, indefinite term contract

² Employees in leadership programs in Türkiye

³ Employees in Türkiye

Digital Transformation

Digital transformation is revolutionizing how businesses operate and create value for their stakeholders. At Eczacıbaşı Building Products - Tiles, we actively seek insights into the potential changes our business will undergo, and the adjustments required to effectively embrace digital transformation. We recognize that implementing new technologies brings fresh approaches and innovative solutions, and we are dedicated to maximizing the benefits of digitalization to drive transformative changes throughout our organization. Our vision for digitalization revolves around integrating digital technologies and data management into every aspect of our operations.

In line with the Eczacıbaşı Group's approach, we prioritize the development of digital solutions that address current challenges, adopting a "today-forward" mindset focused on immediate impact. We actively seek out opportunities to leverage digital technology to improve our performance, reduce costs, and increase efficiency across the value chain. Simultaneously, we adopt a "future-back" perspective, identifying and implementing the necessary adaptations to ensure our long-term success.

By aligning our strategies with the Eczacıbaşı Group's approach, we not only accelerate our performance leveraging digital technologies but also position ourselves to capitalize on emerging opportunities. We recognize that digital transformation is an ongoing journey, and we are determined to strengthen our efforts in this regard to thrive in the rapidly evolving digital landscape. Guided by a determination to drive digital transformation, we have taken firm steps in this direction. Our digital transformation success has been highlighted by Hasan Pehlivan, CEO of VitrA Tiles, stating, "To increase the quality, level of service and competitive advantage of our production facility in Bozüyük, where we develop, manufacture, and manage thousands of products, we designed and successfully implemented a digital transformation roadmap. Through this strategic initiative, which focuses on improving process and production control through smart digital solutions, we have improved our overall equipment effectiveness by as much as 20%, cut our scrap by more than half, and reduced our energy consumption by nearly 15%."

Perspective of Our Executive



Musa Yılmaz
Eczacıbaşı Building Products - Tiles
Plants Director

The Global Lighthouse Network, a respected platform for top manufacturing sites using Industry 4.0 technologies to improve their value chains and business models, includes only 153 selected facilities worldwide as of December 2023.

VitrA Tiles made a significant achievement for our company and Türkiye by becoming the first ceramic tile manufacturer in the world to join this network. Our Bozüyük, Bilecik facility, which produces 30 million square meters of tiles annually, has achieved the capability to operate all production processes at optimal conditions by utilizing data. Decision-making in these processes is carried out using artificial intelligence models, resulting in sustainable quality with minimal resource usage. We mainly focus on energy efficiency and waste reduction through Industry 4.0 approaches, achieving up to a 20% improvement in overall equipment effectiveness, a substantial reduction in scrap, and a 15% decrease in energy consumption.

Highlights of 2023 Awards

Dijitaliz 2023

In 2023, event was hosted by the Eczacıbaşı Group, and our company participated in the sixth "Dijitaliz 2023" event, themed "RISE". We are proud to announce that we have been awarded in several different areas with our efforts to strengthen digital transformation efforts with projects developed in different business lines.

- The project to join the **Global Lighthouse Network**, a global manufacturing facilities initiative led by the World Economic Forum, received an award in the "**The Best Change Management**" category. Within the framework, Our Bozüyük Plant have become the world's first and only ceramic production facility to be included in the World Economic Forum's "Global Lighthouse Network", which consists of manufacturers that are pioneers of 4.0 Industry practices and digital transformation in their sectors.
- Our **DigiTile** project, which encompasses the digital transformation of all stages in the ceramic tile industry, from the preparation of raw materials to the delivery of products to the warehouse, has been awarded the "**The Best Digital Operation - Manufacturing**" category.
- Our the **VitrA Voyage** project has been recognized with an award in the "**The Best Digital Customer Experience**" category, in recognition of its innovative approach to providing an end-to-end online tile experience for the first time in Türkiye. The project offers customers the unique opportunity to explore tile products in the comfort of their own homes through the convenience of the website.



Sen'le
DiJ
iTA
LiZ.

Global Lighthouse Award



As Eczacıbaşı Building Products - Tiles, we are very proud to be the first company in the ceramics sector to be selected by the World Economic Forum at the 2024 Davos meeting as part of a network of 153 companies from around the world. [YouTube](#)

As part of our commitment to data-driven decision-making and end-to-end visibility, Eczacıbaşı Building Products - Tiles focuses on high-quality projects centered on digitalization, sustainability, and innovation in production processes.

At our Bozüyük Plant, we've implemented advanced technology applications such as Artificial Intelligence, Data Analytics, Internet of Things, and Industry 4.0 to transform our value chain and business models. Recognized by the World Economic Forum (WEF), our plant has been selected as **the first in the ceramic tile industry** to join the Global Lighthouse Network for its Industry 4.0 and digital transformation efforts. We are dedicated to producing top-quality products while prioritizing environmental stewardship and efficient resource utilization.



Among our many achievements, it is a source of pride in our success story to be recognized by the **World Economic Forum's Global Lighthouse Network**. We'll continue to be at the forefront of our industry, delivering smart applications that add value to our world, our economy, and our societies.

Did you know?



Global Lighthouse Award

The Eczacıbaşı Building Products - Tiles Bozüyük plant is the first in the ceramic tile sector to be named a Global Lighthouse by the World Economic Forum.

Digital Transformation

At Eczacıbaşı Building Products - Tiles, we are dedicated to anticipating the potential changes in our business environment and actively determining the necessary actions to align with this transformative journey. As we aspire to become one of the top 5 ceramic producers in Europe, we place great emphasis on designing products that align with market dynamics and effectively promoting them. Additionally, we continuously strive to enhance operational efficiency to effectively manage costs and adapt to evolving market conditions through strategic pricing policies.

Our dedication to digital transformation has led to notable advances in 2023, reinforcing our position in the industry and paving our way for sustained growth. By embracing digital practices, we have been able to achieve significant advancements, in terms of operational efficiency and market positioning. These endeavors have reinforced our standing in the market and equipped us to effectively navigate the challenges and opportunities that lie ahead.

Perspective of Our Stakeholders

Murat Güventürk
SELCO Consulting
Co-Founder



Over the past ten years, our collaboration with the Eczacıbaşı Group has been particularly focused on digitalization projects since 2020, showcasing our capabilities in advancing Eczacıbaşı's operational efficiency and sustainability initiatives through advanced analytics.

Eczacıbaşı's focus on energy management, carbon emissions, and water management, as well as the conservation of materials, has been evident in all of our collaborative projects, fulfilling key sustainability objectives and demonstrating Eczacıbaşı's leadership in these critical areas.

The freedom and trust Eczacıbaşı have provided to us, along with honoring our opinions and encouraging innovation, have enabled us to create innovative approaches to traditional manufacturing challenges and push the boundaries of what is possible in digital transformation. This collaboration with Eczacıbaşı has enhanced our capabilities, reinforced our position as innovators in digitalization and supply chain optimization, and significantly contributed to the development of SELCO Consulting.

This year, we made significant strides towards expediting the digitalization of our business processes by raising employee awareness of digital transformation. As part of this initiative, 359 employees at both the Bozüyük Factory and Levent Office, as well as those participating in training sessions in nearby areas, underwent a total of 1,772 hours of training (both online and in-person) covering a wide range of topics related to digital transformation. Including these efforts, a total of **3,118** hours of digital transformation training sessions were conducted throughout the reporting year.

These comprehensive training sessions have been instrumental in equipping our workforce with the necessary skills and knowledge to navigate and leverage digital technologies, ensuring we stay at the forefront of industry advancements.



3,118 hours of digital transformation training sessions were conducted throughout the reporting year.

Topics of the Digital Transformation Trainings

Agile (Agile Method)

Agile Project Management

Big Data and Digitalization

Business Simulation

Business Sustainability Strategy: Technology and Management

Business Technologist Program I Discovery Package

Big Data And Business Analytics Expertise Certificate Program

CHAT GPT-4

Digital Transformation & Trends

Digital Transformation Trainings: Metaverse

Digital Transformation and Trends

Digital Transformation Leadership Modular Development Programme - 1st Module Training (Understand Digital Transformation)

Digital Transformation Leadership Modular Development Programme - 2nd Module Training (Implement Digital Transformation)

Digital Transformation Leadership Modular Development Programme - 3rd Module Training (Lead Digital Transformation)

Fundamentals of Digital Transformation

Effective Communication in Digital Environment

Digital Terminology: The World of the Future

Digital Terminology: In the Footsteps of the Future

GL'23 - Digital Transformation and Agile Training

GL'23 - Launch

GL'23 Innovation Training

Advanced Analytics

Data Analysis

Data Literacy

Data Literacy Training

Data Based Decision Making



DigiTile



The Digi-Tile project is a clear example of how the Eczacıbaşı Building Products – Tiles is transforming the value chain and business models with the help of cutting-edge technology, including AI, data analytics, IoT and Industry 4.0. These innovations are making a real difference in terms of energy efficiency, optimizing processes and resources, and developing talent effectively. The contributions from Boğaziçi University, in terms of their expertise in machine learning and AI, have also been invaluable in the project's development. We believe that you cannot manage what you cannot measure, which is why we have developed a pioneering project that ensures real-time data flow from equipment with a long history. Typically, ensuring this requires substantial investments in equipment revisions or expensive software development. However, we have successfully addressed these needs. By utilizing remote PLCs and user-friendly kiosk screens, we have created a solution that delivers the right data at the right time. While similar software solutions exist in our industry, Digi-Tile stands out as the best in-house developed system, utilizing our internal resources.

Digi-Tile consists of three phases aimed at optimizing our production processes. In the initial phase, we establish data monitoring systems to collect comprehensive data on production and scrap. This data is then stored in AWS for easy retrieval and analysis. The final phase focuses on continuously utilizing the accumulated data by our production teams. This data is used to identify key areas of improvement and to undertake in-depth analytical studies. The daily data gathered from our production processes ensures that we adopt a dynamic and data-driven approach to enhancing efficiency and driving continuous improvement throughout our operations. In preparation for the analytical phase of the project, we have provided data analytics training to project teams, equipping them with the necessary skills to leverage the added value that data analytics brings. Furthermore, we approached the Industrial 4.0 and Analytics Workshop with a problem-focused mindset. We presented all the problems from a process perspective across business units and derived potential digital solutions for these problems. This workshop led to the identification of all “closed loop” solutions that will arise in the project's analytical phase. The Digi-Tile project delivers tangible benefits through monitoring, alarming, forecasting, and effective optimization.

The Digi-Tile project has delivered tangible benefits to the Eczacıbaşı Building Products - Tiles Bozüyük plant. **These include a 24% reduction in raw material usage, a 17% reduction in energy consumption, a 32% reduction in scrap ratio, a 13% reduction in natural gas consumption, a 30% reduction in GHG emissions, and a 20% reduction in water consumption.** Our ability to track and monitor these metrics in real time enables us to promptly intervene and make necessary adjustments based on daily data analysis. In 2023, we achieved significant cost reduction solely through the utilization of Digi-Tile's monitoring systems. We intend to extend the application of this process as soon as possible to our overseas factories.

Did you know?



DigiTile

Our “Digi-Tile” project, which optimizes tile production processes using machine learning, won the “Best Machine Learning Project of the Year” award. Competing against around 140 companies and over 200 applications, our Vitra Tiles Information Technologies team proudly earned this prestigious accolade.





Digimill

Through the Digimill Project, we are ensuring that the energy consumed to achieve the targeted grain size distribution and production standards in the raw material grinding process is minimized in the sludge preparation processes at the Bozüyük plant.

As part of the Digimill Project:

- We use a model that predicts the mill rotation time for the raw material grinding process by analyzing historical data together with current data.
- We optimize the process by using alumina ball wear and mill fullness data to determine when and how much ball to add to the mill.
- We instantly control the total amount of raw and auxiliary materials entering the mill to achieve a high density of sludge and monitor this together with sieve balance and habit values.
- We alert and warn when an out-of-standard value is detected to ensure the desired optimum sludge continuity in production and to accurately create the identity of the milled semi-finished product.

As part of the Digimill project, we are minimizing energy consumption by using data analysis and predictive models to manage our raw material grinding process in the sludge preparation process. With immediate data analysis, we are optimizing raw material quantities and turnaround times, and ensuring the continuity of semi-finished products with the desired quality in production.

DigiSpray

We are proud to contribute to a cleaner and sustainable future with our environmentally friendly and energy-efficient production. With the spray dryer, the sludge drying process is carried out with the lowest energy consumption. We save energy by reaching optimum moisture levels with automatic measurements and data analysis. We instantly measure the parameters that affect product quality with fully automatic sensors and monitor the process with artificial intelligence supported digital environment.

- **Simultaneous Moisture and Size Distribution Values:** We optimize the process by monitoring the mass moisture and granule size distribution simultaneously.
- **Data Analysis:** We analyze the data processed into the program and provide suggestions for the most appropriate energy consumption for standard product production.
- **Alarm System:** We provide rapid intervention by enabling the system to alarm when the humidity and grain size values determined by instant data monitoring are exceeded.

We minimize energy consumption by performing the sludge drying process in the spray dryer with artificial intelligence and machine learning.

