

**2025**

Sustainability Report  
Digest

tenova 

# About Tenova

**Tenova Group** encompasses Tenova S.p.A. and its subsidiaries, and aims to **provide sustainable, innovative, and reliable solutions for the metals and mining industries.**

These businesses are developed through the activities of Tenova, a leading provider of sustainable solutions for the steel and metals industry, and **TAKRAF**, a leader in the mining sector regarding technological solutions. Headquartered in Castellanza (Italy), with **over 2,500 employees** across **18 countries**, Tenova Group partners with global clients to design and **develop innovative technologies and services** that improve and futureproof their businesses, generating cost savings and energy reductions, limiting environmental impact, and improving employee working conditions.

Our **collaborative working model** ensures we are **at the forefront of the industries we work** in and allows us to drive positive and comprehensive transformations for our clients.

To learn more about our fully integrated range of sustainable products, technologies, and services for the metals and mining industries, please visit [tenova.com](https://www.tenova.com) and [takraf.com](https://www.takraf.com).

In this report, any reference to “**Tenova Group**” is to be intended as inclusive of **Tenova S.p.A. along with its subsidiaries** in line with the Tenova S.p.A. Consolidated Financial Statement.

## Where We Are



## Technologies for the **Metals** and **Mining industries**

Innovative and sustainable solutions are the core of our product offering.

- **Iron & Steel**
- **Aluminum**
- **Hydrometallurgy**
- **Pyrometallurgy**
- **Rolling & Grinding**
- **Port Equipment**
- **Mining Systems and Equipment**
- **Bulk Material Handling**
- **Minerals Processing**
- **Services & Components**

# 2025 Highlights

## Environmental



Landmark **projects with leading steel producers** that advanced decarbonization through DRI, Electric Arc Furnaces, hydrogen-ready and circular technologies



**TenovaLAB** selected as a European demonstrator for **hydrogen-based industrial reheating technologies** through the HyTecHeat project



**5 out of 7** EU and Italian R&D proposals selected for funding, with **3 projects launched** in 2025

## Social



An average of **19.4 hours of training** per employee, increased by 8% compared to 2024



Launch of the global **Compliance Fundamentals training** initiative



Launch of the **Digital Employee Hub**, a user-friendly platform designed to centralize and enhance access to **company news** and **employee welfare services**

## Governance



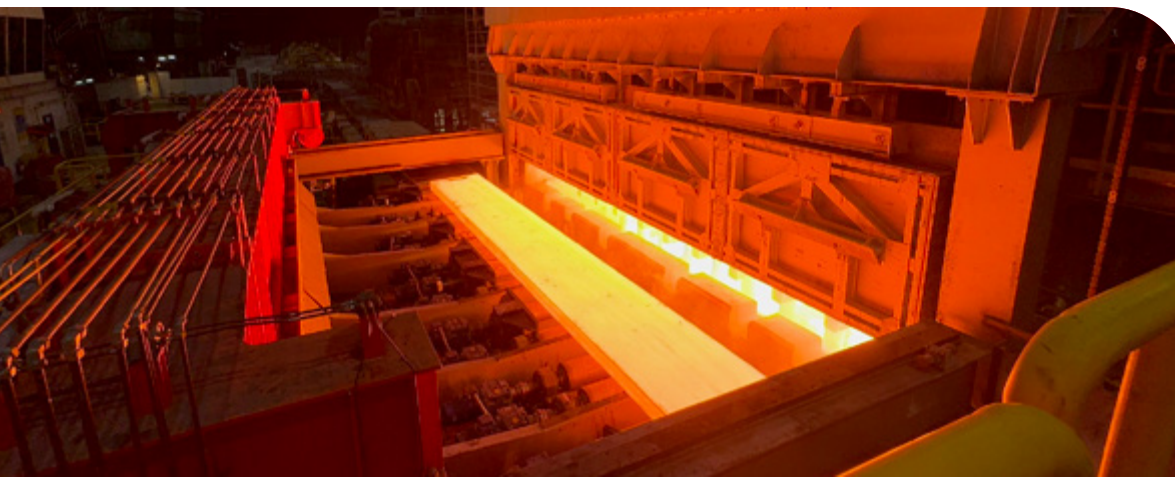
Reinforcement of the **Sustainability Steering Committee** with **4 new members** to drive sustainability strategy and organizational objectives



Updates to the **Whistleblowing Procedure**, reinforcing compliance, transparency, and alignment with international best practices



Definition of a dedicated **CBAM Framework** aimed at strengthening sustainable supply chain governance



# Our Sustainability Strategy

## Materiality Assessment

Tenova Group’s 2025 sustainability performance reporting is grounded in a thorough **materiality assessment**, aimed at identifying the **most relevant environmental, social, and governance (ESG) topics** for both the Group and its stakeholders.

The **impact materiality assessment** conducted in 2024, in accordance with the methodology set forth in the **GRI Standards**, and in alignment with the **European Sustainability Reporting Standards (ESRS)**, remains **valid for the 2025** reporting cycle, as **no significant**

**changes** occurred in the Group’s business activities, operating context, or stakeholder landscape.

The materiality assessment, as well as the whole reporting project, was carried out by our dedicated, interdisciplinary Sustainability Project Team, supported by the Operative Committee – which includes representatives from all Tenova Group Business Units and Functional Areas – and overseen by the Sustainability Steering Committee, which validated the results of the assessment.

Our business strategy is built on **four commitments** and grounded in driving sustainable solutions for our clients and communities:



**Sustainability** - identifying opportunities to streamline industrial processes, resulting in increased efficiency;



**Innovation** - devising novel solutions to age-old problems;



**Reliability** - using our in-depth expertise to ensure our solutions last well into the future;



**Safety** - making workplaces safer.

## Tenova Group’s Material Topics are:

### Environment

Energy

Climate change mitigation

Pollution of air

Resource inflows, including resource use

Resources outflows related to products and services

### Social

Working conditions

Equal treatment and opportunities for all

Other work-related rights

Communities’ economic, social, and cultural rights

Personal safety of consumers and/or end-users

### Governance and Business resilience

Corporate culture

Protection of whistleblowers

Management of relationships with suppliers including payment practices

Corruption and bribery

Innovation and digital transformation

# Our Sustainability Framework

After identifying our priority issues, leaders and key internal stakeholders were involved in a participatory process to develop a **Sustainability Framework** to drive purposeful action and clearly declare our sustainability ambitions

**Our ambition is articulated under three main pillars:**

- 1) **WE TRANSFORM BUSINESS**
- 2) **WE BUILD TRUST**
- 3) **WE ACT TRANSPARENTLY**

**Transformation, Trust, and Transparency** are the three concepts underpinning these pillars. It **is no coincidence that they all start with the "T" of Tenova** – this underscores our intention to deeply embed sustainability in our business.

Additionally, we prioritized the **Sustainable Development Goals (SDGs)** that Tenova contributes to and focuses on.

Our ambition

Our pillars

Our focus areas

We **lead the way** towards the sustainable **transformation** of our industry.  
 We **enable** our people, clients, suppliers, and stakeholders to grow and innovate **while caring** for the well-being of our planet.  
 We **contribute to a resilient and fair world** by operating responsibly.

**WE TRANSFORM BUSINESS**   
 Helping our clients and suppliers transform to operate within planetary boundaries.

- Developing sustainable solutions & technologies
- Investing in sustainable innovation, R&D, and Digital Transformation
- Developing safe-by-design technologies



Impact from business

**WE BUILD TRUST**  
 Empowering our employees and reinforcing mutual trust with all our stakeholders.

- Providing a safe working environment
- Caring for our employees & providing equal opportunities
- Managing talent, empowering and training employees
- Accounting responsibly for our direct environmental impact
- Strengthening our collaboration with communities and stakeholders at large



Impact from our own operations

**WE ACT TRANSPARENTLY**   
 Being transparent within our organization and operating responsibly.

- Ethically operating our business
- Communicating our impact openly and responsibly
- Engaging suppliers for a sustainable and resilient supply chain, and providing supply chain transparency
- Embracing sustainable finance principles



# Value for Our Clients

## Driving Sustainable Solutions

Our portfolio of solutions is primarily dedicated to the sustainable transformation of the metal and mining industries. We create value for our clients by providing innovative technologies that ensure efficiency, resulting in improved performance, reduced waste, and lower carbon emissions. These technologies support the transition to cleaner fuels, enhance energy efficiency, and facilitate the recovery and reuse of previously wasted materials.

In developing these solutions, we not only serve our clients but also work hard to accelerate our sector's transition to a lower environmental impact.

### Energy transition

Tenova aims to shift the energy paradigm in the metals industry by encouraging clients to adopt hydrogen-ready technologies as substitutes for carbon-based processes, thereby driving business transformation.

#### Our solutions:

- **Electrical Steel**
- **DRI and ENERGIRON**
- **SAF and Open Slag Bath Furnace**
- **iBLUE®**
- **Combustion Systems for Furnaces**
- **TenovaLAB**

### Energy efficiency

In cases where it is not yet feasible to transition to cleaner fuels, we have developed a suite of technologies to **help our clients use their existing fuels more efficiently** or adapt their existing processes to **reduce their emissions**.

#### Our solutions:

- **Consteel® EAF & EMS**
- **iRecovery®**
- **Multiple Pre-heater**
- **In-Pit Crushing & Conveying (IPCC)**
- **Gearless Conveyor Drive (GCD) Technology**
- **High-Pressure Grinding Rolls (HPGRs)**
- **DELKOR BQR Flotation Cells**

### Circular economy

Industrial processes create numerous waste byproducts. Our technologies contribute to the circular economy by **enhancing the recovery and reuse of these byproducts**.

#### Our solutions:

- **Auto catalyst and battery recycling**
- **EAF-LF (Electric Arc Furnaces – Ladle Furnace)**
- **Dry Slag Granulation**
- **Lithium Recovery**
- **Black Mass and Rare Earth Solvent Extraction**
- **The world's strongest permanent magnet**
- **Twin-chamber furnaces for aluminum**
- **Magnesium production from Coal Ash**
- **DELKOR Thickeners**
- **DELKOR Horizontal Belt Filters (HBFs)**
- **DELKOR Filter Presses**

### Impact monitoring

As a **responsible company**, we recognize the importance of **monitoring the impact** of our products and services on the environment and human health. We commit to improving our processes and products to ensure their impact is accounted for throughout their **entire life cycle**.

#### Our solutions:

- **Pomini Digital Texturing™**

# Delivering Safe Products by Design

At Tenova Group, **safety is embedded from the design stage**, leveraging expert knowledge and innovation to **prevent risks before they arise**. Our tech-driven approach integrates robotics, AI, and smart sensors into products to enhance monitoring and safety. Through data collection, analysis, and training, we deliver solutions that offer real-time and predictive insights, helping clients prevent accidents, improve maintenance, and protect their workforce effectively.

## Our safe technologies include:

- **Water Detection System (WDS)**
- **Copper cooling systems for SAFs**
- **MEGtec™**
- **Pomini Digital Texturing™ (PDT™)**
- **SAFE+ (Safe Plus) EAF configuration**
- **SafeForPorts**
- **Full Automation**
- **TAKRAF X-TREME Class Sizer**
- **The TAKRAF Sizer Hot-change Method**
- **Innovative Tie Rod Replacement on a Ship Unloader**
- **TAKRAF's Advanced Remote and Condition-Based Maintenance Systems**



# Advancing R&D Innovation

We enhance existing technologies and develop new ones to **reduce the environmental impact** of clients' facilities while boosting production efficiency. Our solutions minimize CO<sub>2</sub> and other harmful emissions, integrate alternative and renewable energy, and promote **circularity**.

## Our 2025 projects:

- **Slag2Build**
- **PRISMA**
- **SYRIUS**
- **HyTecHeat**
- **NGEN**
- **InSGeP**
- **iSteel-Expert**
- **LIFE H2Reuse**
- **Calculation tools and operation visualization**
- **Dry-stack tailings testing**
- **Welding procedures, robotized welding and 3D-printing**
- **Alternative raw materials**
- **Filter press design development**
- **Separator development**

**Digital technologies** have the potential to **revolutionize the metals and mining industries**. Tenova Group leverages AI, machine learning, and data analytics to **boost efficiency and sustainability in metals and mining**. A dedicated **Digital Transformation strategy** and team ensure customer value and innovation remain central to our approach.

## Adopting a Digital Mindset

To boost productivity in a hybrid work model, Tenova promotes a digital mindset through tools, training, and cultural change. We support remote collaboration, streamline project management, and embrace technologies like GenAI and AI-driven platforms to reduce repetitive tasks, enhance efficiency, and ensure cybersecurity awareness, enabling teams to focus on high-value activities and stay connected across the organization.

## Empowering Innovation with AI

In 2025, Tenova continued to advance the adoption of artificial intelligence across the organisation, promoting knowledge sharing and collaboration through the AI Garage community. The initiative supports the exchange of AI expertise and the development of solutions aimed at improving business processes and operational efficiency. Key projects launched during the year included AI-powered tools for proposal preparation, automated service desk support, and contract analysis, enhancing productivity, customer service, and decision-making capabilities.



## Supporting Client Engagement

**Tenova's Digital Portal** offers customers streamlined access to support, spare parts, manuals, and advanced tools like ESPC, IPA, T-LAB Experiments, and the Slag Granulation analyzer, enhancing service, data insights, and sustainable decision-making. Some of the proprietary digital tools we have developed include:

- **Tenova IIoT Platform**
- **Tenova EDGE**
- **Tenova adVISOR**
- **Tenova Electronic Spare Parts Catalog**

# Our Responsible Approach

## Our Environmental Impact

As a Group, Tenova has long recognized the harmful impacts that climate change has on the planet. That is why **we strive to help clients mitigate that impact through our products, technologies, and services**. Alongside helping our clients, we are also taking steps to monitor and reduce the **environmental impact of our own operations**.

The Group's commitment to reducing its environmental impact has led to the achievement of being **ISO 14001 – Environmental Management Systems** certified in the Castellanza and Genoa (Italy) sites of Tenova, as well as for TAKRAF's Lauchhammer and Leipzig (Germany) and Australian sites.

### The environmental impact of Tenova Group in 2025:



#### Total energy consumption: 71,229 GJ

- of which Fuel consumption: 29,737 GJ
- of which Electricity consumption: 30,339 GJ
- of which Steam consumption: 11,154 GJ



#### Scope 1 emissions:

1,845 tCO<sub>2</sub>e

#### Scope 2 emissions (market-based):

5,238tCO<sub>2</sub>e

#### Scope 2 emissions (location-based):

3,777 tCO<sub>2</sub>e



# Our People

**At Tenova Group, we believe that our people are the foundation of everything we do.** We are deeply committed to **protecting, nurturing, and empowering our workforce**, aiming to create an environment where our people can feel safe, valued, and able to focus on what truly matters: each one's personal and professional growth.

## Occupational Health and Safety

**Safety is a fundamental value at Tenova Group.** We are deeply committed to ensuring well-being of our people and all those we interact with, through our **"Safety First"** approach: in practice, it means maintaining a strong focus on **prevention and awareness in all matters related to health and safety**.

A key part of the "Safety First" approach is the gradual extension of **ISO 45001 – Occupational health and safety management systems** certification, internationally recognized as a standard for occupational health and safety, across **all our sites**.

## Diversity, Equity and Inclusion

We consider **diversity as a driver for innovation, resilience, and creativity**, and we are constantly working toward a more just and inclusive environment. We believe that diversity enhances our capacity to innovate and adapt. That's why we are committed to fostering an inclusive and equitable workplace where every employee feels respected and treated fairly.

## Talent

For Tenova to succeed as a Group, our employees must be able to learn the necessary skills in an industry that is constantly evolving. We pride ourselves on providing a **supportive work environment** where employees can **grow and develop in their careers** while promoting inclusive local employment practices to generate **high value in the territories in which we operate**. Training activities in 2025 focused on the following areas:

- **Digital Skills**
- **Collaboration and Feedback**
- **Compliance**

Well-being is a way of working at Tenova Group: we believe it is a cornerstone to build a resilient and progressive organization. As a matter of fact, attracting and retaining the right talent includes creating a package of benefits that proves our commitment to **creating an equitable and supportive workplace** that allows all our employees to collaborate effectively, feel part of a community, and thrive in line with our values.

In July, the **Pulse Survey 2025** was launched through the new Qualtrics platform, achieving an **80% response rate** and providing valuable employee feedback on key engagement and culture indicators.



# Our commitment to a **Transparent Governance**

At Tenova Group, we **lead by example** and are strongly committed to acting in compliance with local laws and regulations and promoting them in local communities. All our efforts are aimed at protecting our most precious asset: **Tenova Group's healthy corporate culture**. This ambition is made tangible through comprehensive internal policies ensuring a transparent governance and ethical stakeholders relationships.

## Governance and ESG Management

Tenova's ethical governance begins at the highest level, with the Board of Directors guiding decisions based on transparency and stakeholder trust. The Board ensures strategic alignment with the Group's sustainable development objectives. The Chair of the Board holds a non-executive role to maintain independence and oversight. The Board is supported by two key bodies:

- **Compliance Committee**
- **Supervisory Body** (in line with Italian Legislative Decree 231/2001)

Sustainability is central to Tenova's mission, with the Board shaping, approving, and updating strategies and goals.

Three specialized committees support the Board in embedding sustainability throughout the organization:

- **Sustainability Steering Committee:** Sets strategy, goals, and identifies partners.
- **Sustainability Project Team:** Manages projects, monitors KPIs, and ensures on-time execution.
- **Operative Committee:** Communicates strategy internally and assigns responsibilities.

## Compliance and Ethics

We prioritize adherence to regulations and foster a culture of compliance:

- Our employees are expected to follow our Code of Conduct, our Anti-Bribery Policy, ethics, and integrity values;
- During 2025, 2,332 of our employees attended mandatory anti-corruption training, including the new Compliance Fundamentals course;
- We updated the Whistleblowing Procedure;
- We adhere to data privacy and security standards, including GDPR;
- We implemented a cybersecurity roadmap to identify and mitigate potential risks.

## Our Supply Chain

Tenova Group operates on a global scale, with an international supply chain spanning five continents. Our operations are global but at the same time we are strongly focused on the impact we generate locally, thus, in 2025, 60% of Tenova Group's purchases were sourced locally, namely within the same country where our legal entities operate.

We ensure full compliance with procurement regulations and expect all suppliers and partners to comply with applicable laws and regulations. During 2025, Tenova implemented a dedicated CBAM Framework aimed at strengthening sustainable supply chain governance and ensuring a more harmonized management of CBAM-related obligations across the company.

At Tenova Group, sustainability guides the way  
**we engineer the future.**

**2025**

**tenova** 

