

**EFFICIENCY**

**FUTURE**

**CHANGE**



**Erdemir**Group

ERDEMİR GROUP 2016 SUSTAINABILITY REPORT

**LOW  
CARBON  
ECONOMY**

**WASTE  
MANAGEMENT**

**R&D AND  
INNOVATION**

**ENERGY  
SAVING**

**BIODIVERSITY**





**CLEAN ENERGY**

**OCCUPATIONAL  
HEALTH AND  
SAFETY**

**LIFE CYCLE  
ASSESSMENT**

**RECYCLING**

**HUMAN  
RESOURCES**



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## INTRODUCTION

### ABOUT THIS REPORT

**THIS REPORT IS THE THIRD SUSTAINABILITY REPORT PUBLISHED BY THE ERDEMİR GROUP; TURKEY'S LARGEST INTEGRATED FLAT STEEL PRODUCER, THE PIONEER AND LEADER OF THE TURKISH STEEL INDUSTRY.**

#### Scope of the Report

This report is the third sustainability report published by the Erdemir Group, Turkey's largest integrated flat steel producer, and leader of the Turkish steel industry. The sustainability performance criteria covered by this report apply to the 2016 indicators of the Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (Erdemir) and İskenderun Demir ve Çelik A.Ş. (İsdemir). The financial data are indicative of the consolidated performance of the Erdemir Group as a whole.

The report deals with the activities of Erdemir and İsdemir at three different lines:

- Developments in the economic, environmental and social areas during the reporting period;
- Erdemir Group's performance under the titles of stakeholders, corporate structuring, human resources and the community;
- The impact of the developments experienced in the steel sector in 2016 on the Group performance and its relation.

The report describes the developments, work carried out and progress achieved on the axis of sustainability from the establishment of the Erdemir Group up to the year 2016 in chronological order. In addition, the Group's approaches, policies, short, medium and long-term goals and plans for the future are also set out in the sections as deemed necessary.

The report, which provides detailed information of the performances of Erdemir and İsdemir, presents the work carried out in order to internalize sustainability in each area by being based on the principles of being up-to-date, consistent, accountable and transparent with information. Published sustainability reports, also intended to serve as a record of the Erdemir Group's corporate performance in that direction.

#### Reporting Period

Unless otherwise indicated, this report covers the period 1 January – 31 December 2016. The information presented in this report is also intended to serve as a basis for comparison in any sustainability reports that Erdemir and İsdemir may in future publish. The most recent previous sustainability published by the Companies report was concerned with 2015.

#### Reporting Cycle

In principal, the Erdemir Group publishes reports on an annual basis. While this particular report has been prepared so as to comply with Global Reporting Initiative and similar internationally recognized standards, it has not been independently reviewed or audited in any way.

It is the intention of the Erdemir Group to gradually include information about the sustainability performance of other Group companies in future reports.

## CORPORATE PROFILE<sup>1</sup>

**TO EVALUATE TOUGH CONDITIONS AND COMPETITION THEN CONTINUING TO INVEST, THE ERDEMİR GROUP CONTINUES TO PRODUCE FOR TURKEY BY SHAPING LIFE.**

Erdemir Group, Turkey's largest and only integrated flat steel producer, has been a pioneer and leader in the sector since 1965. Erdemir Group, which plays a key role in the development of the Turkish industry that goes back half a century, continues to generate permanent added value for its stakeholders with its constantly developing production capacity, products and services.

A subsidiary of OYAK Group since 2006, the Erdemir Group consists of 7<sup>2</sup> companies operating in the fields of;

- Flat Steel and Long Steel Production,
- Steel Service Center Services, Mining, Engineering and Project Management.

47.63% of the shares of Erdemir, which has one of the largest market capitalizations of any company in Turkey, are traded on the Borsa Istanbul (BIST). Erdemir shares (EREGL), which are one of the blue-chip stocks since the establishment of the Borsa İstanbul in 1986, are listed on the BIST 30 index. Erdemir shares, also listed on the BIST Corporate Governance Index and BIST Sustainability Index.

On the other hand, İsdemir shares have been trading on the Pre-trading Platform (the former Free Trading Platform) since March 28, 2016 under the "ISDMR" ticker.

### Products in all areas of life

Erdemir Group differentiates itself in the sector with its teamwork, management approach with high foresight and its ability to act with agility. It makes significant contributions to many sectors from automotive to construction sector, from white goods to shipbuilding construction.

### Erdemir products are exported to all over the world.

The Erdemir Group exports its product range, which it develops and enriches every year, to various countries besides the domestic markets. It exports to a very wide geographical area from South America to the Far East.

To evaluate and then continuing to invest despite difficult conditions in the steel sector, Erdemir Group continues to produce for Turkey by shaping life.

<sup>1</sup> For detailed information please see page 2-3 of the Erdemir Group 2016 Annual Report. <https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMİR-06-ENG-1383.PDF>

<sup>2</sup> For detailed information about Erdemir Group companies please see page 18-19 of the Erdemir Group 2016 Annual Report. <https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMİR-06-ENG-1383.PDF>



**The most important success factor of the Erdemir Group is human resources with high knowledge and experience.**

The Erdemir Group sees qualified human resources as one of the building blocks of its success, and the Group relies on the in-depth sector knowledge and experience of its employees in achieving its future goals. In this vein, the Erdemir Group is undertaking investments to raise and develop human resources, and for them to be sought-after people in the sector.

As of the end of 2016, the Erdemir Group, one of Turkey's largest employers, provided employment to 12,277 people.

**A sustainable future with sustainable steel...**

Adopting the OYAK Group's sustainability approach, Erdemir Group adopts as a principle itself on end-to-end sustainability in its operations. It carries out activities to create and spread an awareness of sustainability in the community and employees.

The Erdemir Group continues to create "more value with less resources" to protect the environment in order to leave a habitable world for present and future generations, and to make a contribution to social development.

**THE ERDEMİR GROUP ADOPTS AS A PRINCIPLE ITSELF ON END-TO-END SUSTAINABILITY IN ITS OPERATIONS. IT CARRIES OUT ACTIVITIES TO CREATE AND SPREAD AN AWARENESS OF SUSTAINABILITY IN THE COMMUNITY AND FOR ITS EMPLOYEES.**

## MAIN SUSTAINABILITY INDICATORS IN 2016

### ECONOMIC

#### NET SALES REVENUE

**TL 11,636 MILLION**  
**(3,855 MILLION US\$)**

#### NET PROFIT

**TL 1,516 MILLION**  
**(502 MILLION US\$)**

### ENVIRONMENTAL

#### ENVIRONMENTAL INVESTMENT EXPENDITURES

**ERDEMİR: 3,708,978 US\$**  
**İSDEMİR: 7,809,000 US\$**

#### ENVIRONMENTAL PERFORMANCE INDEX

**ERDEMİR: 90%**  
**İSDEMİR: 92.99%**

### SOCIAL

#### TOTAL EMPLOYMENT (PEOPLE)

**ERDEMİR: 6,170**  
**İSDEMİR: 5,028**

#### TRAINING PER PERSON (HOUR)

**ERDEMİR: 39.5**  
**İSDEMİR: 36.75**

Please see page 4 of the 2016 Annual Report for Erdemir Group's Key Financial Indicators.  
<https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMİR-06-ENG-1383.PDF>



**TOTAL ASSETS**  
**TL 23,651 MILLION**  
**(6,721 MILLION US\$)**

**IN ERDEMİR US\$ 3,708,978 AND IN İSDEMİR US\$ 7,809,000 ENVIRONMENTAL INVESTMENT EXPENDITURES WERE REALIZED IN 2016.**

**ENERGY-SAVING**  
**ERDEMİR: 112,368,884 KWH**  
**İSDEMİR: 739,693,242 KWH**

**CO<sub>2</sub> REDUCTION**  
**ERDEMİR: 64,820 (TONS/YEAR)**  
**İSDEMİR: 404,242 (TONS/YEAR)**

**SOLID WASTE RECOVERY RATE\***  
**ERDEMİR: 72.3%**  
**RAW MATERIAL SAVINGS:**  
**176,303 TONS**  
**İSDEMİR: 57.7%**  
**RAW MATERIAL SAVINGS:**  
**204,709 TONS**

**RATIO OF RECIRCULATED WATER USE**  
**ERDEMİR: 92%**  
**İSDEMİR: 95%**

**OHS TRAINING PER PERSON (HOUR)**  
**ERDEMİR: 18.62**  
**İSDEMİR: 18.75**

**AWARDS**

- **OHS - GOLDEN GLOVES AWARD**
- **PROJECTS FOR INCREASING ENERGY EFFICIENCY IN THE INDUSTRY, SEVAP-3 CATEGORY 1<sup>ST</sup> PRIZE**

\*Solid wastes reused are vary.

## CHAIRMAN'S MESSAGE



### Dear stakeholders,

Steel is a material with high strength, light weight, can be recycled and which is used in all aspects of life. It plays a vital role in the establishment of development from past to present and will remain an integral part of people's lives in building the sustainable world of the future.

Steel, which has such critical importance in a changing future, is an essential input that will retain its importance in a wide range of fields such as renewable energy, green and smart buildings, fuel-efficient vehicles running on clean energy and infrastructure for recycling facilities.

### **Innovation means the future for the OYAK Mining and Metallurgical Group.**

In addition to providing lasting value to the Turkish economy, in our capacity as a role model for our country's industry, we have been realizing our objectives by maintaining our perspective that places customer satisfaction above everything else.

The 21<sup>st</sup> century requires many parameters to be addressed at the same time, such as climate change, rapid depletion of natural resources and meeting the needs of a growing global population. The OYAK Mining and Metallurgical Group takes responsibility for bringing innovative models and solutions to the table that will help create a sustainable world and add value to society as a whole.

## THIS REPORT SHARES THE MILESTONES OF THE OYAK MINING AND METALLURGICAL GROUP'S SUSTAINABILITY JOURNEY FROM THE PAST TO PRESENT.

As we progress on this path towards our objectives, we see the necessities of sustainability and low carbon economy as our guide and we firmly embrace them. We act with an awareness that we are entrusted with limited resources and we manage our production cycle with a sense of corporate responsibility.

In our sustainability process, we adopt innovation as the fundamental principle in achieving a strong long-term strong financial performance and efficiency, and we shape all of our work around this focus.

We are base our sustainability strategy on four basic principles.

- Integrating sustainability into all of our business processes in a manner that extends from the procurement stage to sales and after-sales services,
- Reducing our environmental footprint while manufacturing value-added products,
- Ensuring sustainable production conditions across the Group, taking into account raw material efficiency, aiming to reduce emissions and prioritizing occupational health and safety,
- Supporting continuous improvement by creating social value for all our stakeholders.

It is our belief that this strategy will carry our Group to a much stronger and more competitive position on a global scale; it will play a key role in properly managing the risks that our industry faces and determining opportunities.

### **2016 was a year when we achieved significant gains in the name of sustainability and innovation.**

Within the context of the Life Cycle Assessment study that we applied to all processes in 2016, we took the necessary steps to determine the environmental impacts of our products.

On one hand, we initiated studies to determine the environmental footprint of our investments in line with our principle of reducing our environmental footprint, while manufacturing value-added products.

### **Stepping up to the plate in tackling global warming and climate change**

Our Group, which operates in an energy intensive sector, is aware of its important responsibilities in the field of combating climate change. In 2016, our environmental investments amounted to approximately US\$ 12 million, evidence to the importance we attach to this issue.

With the projects at the No. 3 and No. 4 Blast Furnaces at İsdemir, which we commissioned in 2016, and the Erdemir Top Pressure Recovery Turbines projects, which are in the process of being commissioned, we reduced our electricity purchases by 15% and the amount of raw materials we need by 3%, while reducing our total CO<sub>2</sub> emissions by 3%.

### **Erdemir maintains its position in the BIST Sustainability Index.**

Erdemir maintained the success reflected by its inclusion in the BIST Sustainability Index in 2016. Our share certificate is one that inspires confidence, sustainable shareholder value and a stable return in the long run in the eyes of domestic and foreign investors and analysts.

We are committed to raising our position in the sustainability league to a higher level, by implementing the requirements of commonly accepted standards. This report shares the milestones of the OYAK Mining and Metallurgical Group's sustainability journey from the past to present.

On behalf of the OYAK Mining and Metallurgical Group, I would like to thank you, our valuable stakeholders, for your contributions and your support for our efforts to build a more sustainable world.

Respectfully,

**Ömer M. Baktır**  
Chairman of the Board of Directors and  
Managing Director

## THE ERDEMİR GROUP VISION

### STRATEGIES, “SUSTAINABILITY AND THE ENVIRONMENTAL” ISSUES ARE EVALUATED AND STRUCTURED IN THE ERDEMİR GROUP.

**The Erdemir Group, which combines the principles of sustainability with its core strategies and value chain, undertakes investments to reach the objectives and uses all its resources in this direction.**

The Erdemir Group’s business model is based in line with its principle of being “the best” in all its products and services. While companies develop their performance on the one hand, they consider the benefits of their stakeholders on the economic, environmental and social level on the other and takes steps in this direction. The most important principles of the Erdemir Group are transparency, openness and accountability.

The Erdemir Group aims to successfully implement the strategies that it has determined in all areas of focus, especially production, sales and R&D, to continue to be a reputable and preferred business and as a solution partner in the sector and to continuously increase the value that it adds to the environment and people.

Structuring all of its processes with a focus on the customer, the Erdemir Group is chosen by virtue of the trust it attracts with its technology, innovation and 100% customer satisfaction approach.

The Erdemir Group shapes a multi-faceted development by establishing

strong and long-term collaboration with its suppliers, society and all other stakeholders, especially its customers and employees.

The Erdemir Group is shaping its future by operating the strategic planning process, developing the process in a planned manner each year, ensuring an ever increasing level of participation in the organization and integrating the expectations of all stakeholders into the process. The Group’s strategic planning approach is based on relating the objectives to the operations and ensuring the Corporate Performance Management and the Group strategy is measurable and manageable.

In the game plan created in this direction, strategic priorities and areas of focus are laid out and long-term strategies and short-term operations are connected to each other and thus become firmly established. The plan includes activities what the organization needs to implement in order to reach the vision of the Erdemir Group and what its implementation.

The concepts of Operational Efficiency, R&D, Innovation, the creation of World Class Manufacturing (WCM), Investing in People and Respect to Society stand out in the Erdemir Group’s game plan. Strategies, “sustainability and the environmental” issues are evaluated and structured in the Erdemir Group.





The Group determines its objectives by anticipating the yield of changing dynamic environment with its characteristics and focuses on areas that will provide competitive advantage. Thanks to all in which areas are detailed, it increases its reputation every sample of all stakeholders and continues to achieve progress on a global level by making sure steps to be an example in global plane.

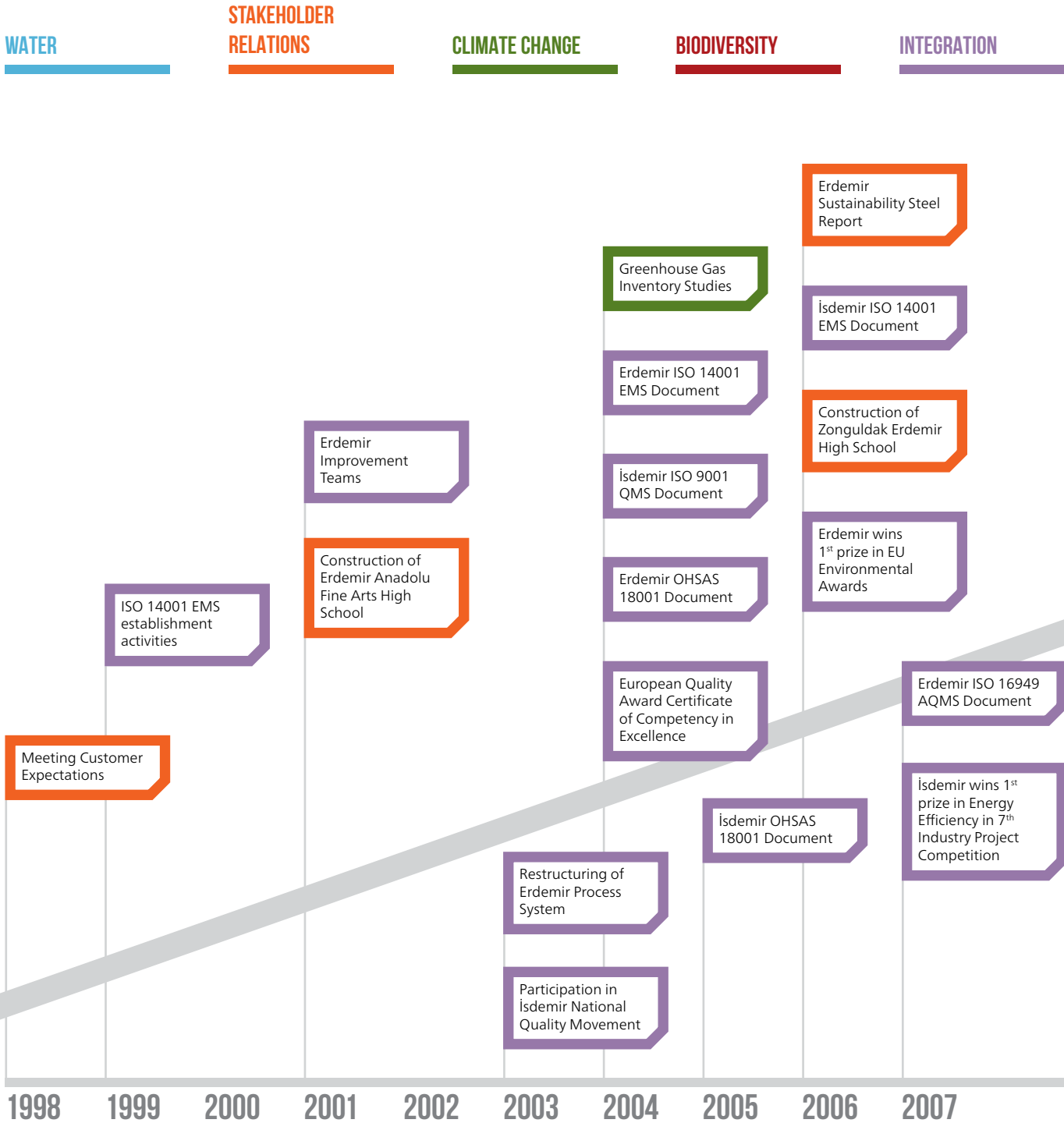
- The Erdemir Group does not only take into account the financial results when considering its strategies.
- It determines what Group wants to do in terms of finance, customer, processes and learning-development, and while determining these, it focuses on meeting the expectations of all stakeholders, from the shareholders to the society.
- The Erdemir Group holds the concepts of Operational Efficiency, R&D, Innovation, the creation of World Class Manufacturing (WCM), Investing in People and Respect to Society at the forefront of what it does. While the Group is focused on all of these strategies, it takes the

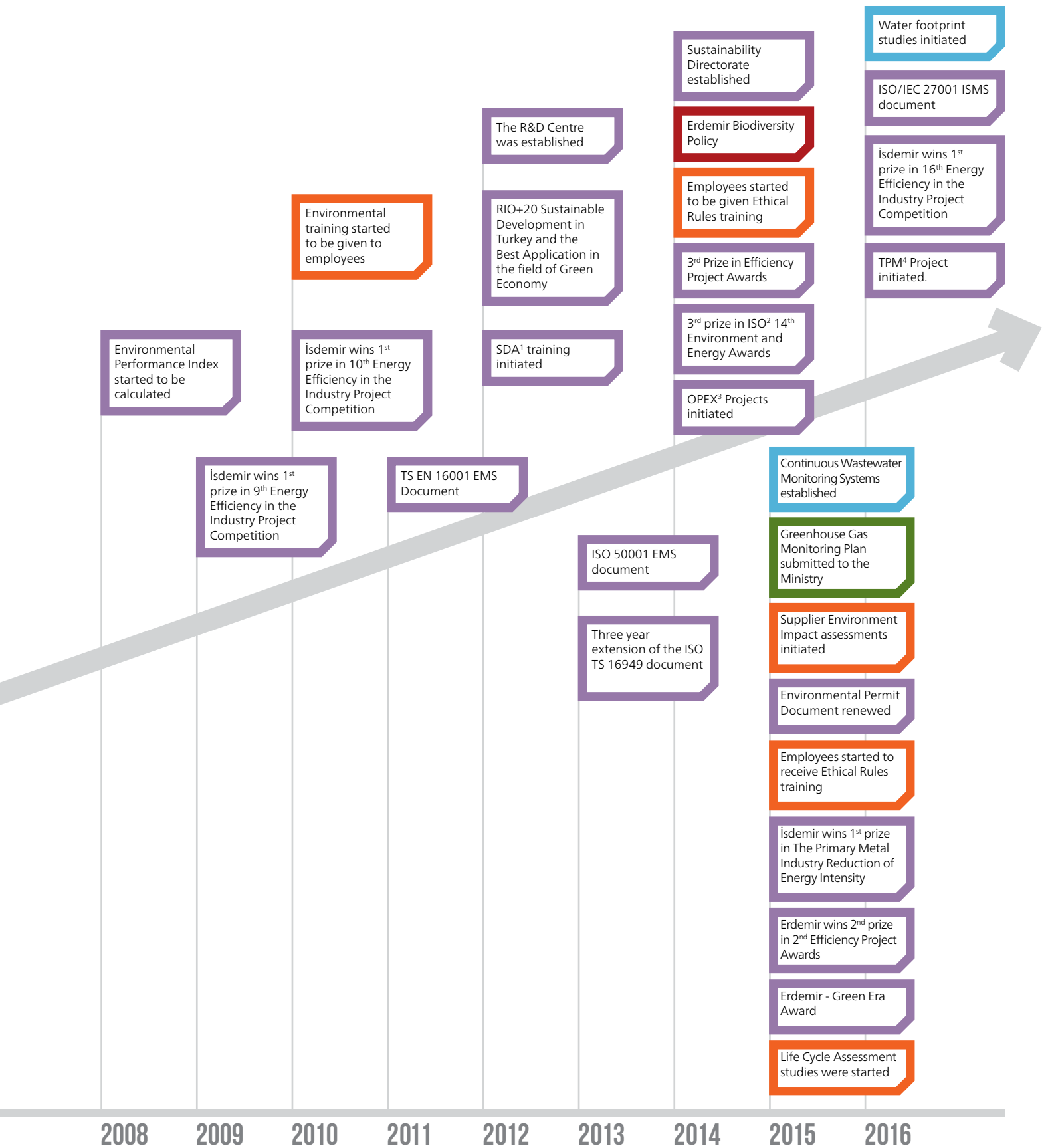
concepts of “Sustainability and the Environment” as a basis.

- With the plan that was detailed with the Sustainability and Environmental Policies, the Erdemir Group is raising its reputation each due to all stakeholders and progresses towards the future with sure steps.
- The Erdemir Group adopts the principle of maintaining its position as a Group that completely fulfils its social responsibilities towards the society and the environment. During the phase of determining the strategies, the responsible persons in the organization are included in the process, and they therefore have an ownership in the strategies and the game plan within the Group.
- The Erdemir Group is working on alternative scenarios that will provide a competitive advantage while determining its strategies according to ever changing dynamic market conditions.
- When implementing the strategy plan, the Erdemir Group’s key characteristics such as effective leadership, organizational flexibility and agility are at the forefront.

**WHEN IMPLEMENTING THE PLAN, THE ERDEMİR GROUP’S KEY CHARACTERISTICS SUCH AS EFFECTIVE LEADERSHIP, ORGANIZATIONAL FLEXIBILITY AND AGILITY ARE AT THE FOREFRONT.**

# ERDEMİR GROUP SUSTAINABILITY MILESTONES





<sup>1</sup> SDA - Statistical Data Analyses  
<sup>2</sup> İstanbul Chamber of Industry  
<sup>3</sup> Operational Excellence  
<sup>4</sup> Total Productive Maintenance

## ERDEMİR GROUP SUSTAINABILITY PRINCIPLES

**IN THE SCOPE OF UN DEVELOPMENT GOALS, THE ERDEMİR GROUP ACCEPTED THE GOALS, NUMBERED AS 6, 7, 9, 12, 13, AND 15, AS A PRIORITY AND THE GROUP HAS INTENSIFIED ITS EFFORTS IN THESE AREAS.**

### **The objective of being differentiated in competition through the sustainability-based activities**

The Sustainability Principles determined by the Erdemir Group are as follows:

- integrating sustainability into all business processes, in a manner to cover procurement, sales and after-sales services,
- reducing environmental footprint while producing value added products with advanced technology,
- development of sustainable production based on occupational health and safety, in addition to continuous improvement that enables raw material efficiency and reduction of emissions,
- creating social value for all stakeholders and providing continuous social development.

The Erdemir Group is aware that the sustainability-based activities are distinctive factors for a company operating at a global scale that enable the company to stand one step ahead in global competitiveness. As Turkey's

largest producer of flat steel and the leader in the sector, the Erdemir Group fulfils its responsibility when it comes to sustainability and carries out its activities with this perspective.

Taking into account the social and environmental impacts in the production activities in this framework, the Erdemir Group combines the properties of steel with its properties of long-life, durability and full recyclability with a focus of sustainability.

The Erdemir Group carries out its operations with an awareness that the quality of life, level of prosperity, competitiveness, employment and the continuity of the ecosystem are all related to the common natural capital.

Taking into account environmental and social needs and financial structure and financial strength, the Erdemir Group Sustainability Strategy takes the performance that complements each other in these three areas as a corporate focal point.





### Sustainable Development Goals and Erdemir Group

The 17 Sustainable Development Goals (SDGs) adopted by 195 member nations of the United Nations (UN) consist of 169 subheadings. The “Transforming Our World: 2030 Agenda for Sustainable Development” agreement, which regulates these goals, has broadened the dimensions of sustainability goals.

The Sustainable Development Goals represent an important milestone in the Millennium Development Goals (MDGs), aimed at the development of sustainable development and the fight against poverty implemented following the Millennium Declaration in 2000.

Within the scope of the goals that are of such a crucial position regarding the future as well as the present conditions of the world, the Erdemir Group, re-examined the sustainability agenda on the basis of the World Steel Association

sustainability indicators with the SDGs; it revised its sustainability principles and goals with a focus on innovation.

The Erdemir Group believes in the importance of all the SDGs for healthy progress in protecting the environment, human life and society. However, it accepted the goals, directly related to the Group’s area of operation, numbered as 6, 7, 9, 12, 13, and 15, of which the Group believes to accelerate the value demonstrated in the field of sustainability and the widespread effect, as a priority. The Group has intensified its efforts in these areas.

Within the scope of usual dialogue and communication with the stakeholder groups, the determination of the goals was carried out by the Erdemir Group Sustainability Directorate and brought into the Group’s agenda.

Within this scope, the SDGs determined by the Erdemir Group are as follows.

**SAVINGS IN TERMS OF RAW MATERIALS AND NATURAL RESOURCES CAN BE REALIZED THROUGH ACTIVITIES CARRIED OUT UNDER THE ORGANIZATIONS CONDUCTED WITH SUSTAINABILITY PRINCIPLES THE RECOVERY OF WASTE DURING PRODUCTION IS ONE OF THE MAIN OBJECTS OF SUCH MEASURES.**

## ERDEMİR GROUP SUSTAINABILITY PRINCIPLES

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### CLEAN WATER AND SANITARY CONDITIONS:

Resetting our water footprint, reducing wastewater discharge.

The economy, society and ecosystem cannot be mentioned without of air, water and soil. Although 95-98% of the water used in the steel industry is recovered, the decline in water resources due an increasing population and climate change are constantly increasing the importance of protecting the environmental capital consisting of water, air and soil more and more.

In the Erdemir Group, water is used for process and cooling purposes as well as to eliminate air emissions and is therefore of special importance. As important as the use of water is, the parameters in wastewater are also monitored and kept under constant control.

Although recirculation usage rates are high in the steel sector, the goal of determining the water footprint, which analyzes the water used, rather than the amount of water removed from the nature, was chosen as the goal.

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### ACCESSIBLE AND CLEAN ENERGY:

The Group is to achieve a self-sustaining structure in electrical energy.

Without a doubt, one of the most important expense items in the steel sector, which has many inputs, is energy. Energy efficiency as well as lowering production costs, it also reduces greenhouse gas emissions.

Energy, which is one of the most important building blocks of development, is an element that must be used effectively in order to continue sustainable development as well as preparing societies for the elements of modern life.

In this context, the aim of the Erdemir Group is to contribute to ensuring access to energy sustainability.

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### INDUSTRY, INNOVATION AND INFRASTRUCTURE:

Reducing greenhouse gas emissions by developing high-strength steel.

Many project-based activities are carried out within the Erdemir Group R&D Centre with the aim of meeting the demands of the automotive sector and to advance the progress of the global steel industry. Intensive studies have been carried out on next generation steels with a wide range of applications in the automotive sector. These efforts include the addition of steel to the product range, which is of higher strength and has improved properties, in addition to the introduction of the next-generation steel grades, which offer improved performance characteristics with the improvements made, despite being included in the Group's product range. The work on new product development is carried out together with the main automotive manufacturers and the automotive supplier industry.

The basis of the improvement and new product development efforts carried out is to use the higher strength steels in automotive applications. The use of thinner steel sheets with higher strength enables reductions in CO<sub>2</sub> emissions in the automotive sector. Therefore, the main goal of the Erdemir Group, as in the whole world, is the development of advanced high strength steels and bringing them into use.

The management of Life Cycle Assessment (LCA) studies for products and processes, carrying out the LCA studies for the new grades to be developed by creating the process models, and the preparation of product environmental labels are among the determined goals.

# 12



## RESPONSIBLE CONSUMPTION AND PRODUCTION:

Creating economic value and enabling savings in natural resources by recycling all waste generated from the processes.

Savings in terms of raw materials and natural resources can be realized through activities carried out under the sustainability principles of steel production. The recovery of waste during production is one of the main objects of such measures.

Effective use of resources cannot be achieved unless the recycling or re-use of the waste generated as a result of the production is within the framework of the economic model. It has become necessary to ensure that all the waste generated as a result of production is used for energy saving purposes or as raw materials in other production processes, in addition to recycling products to reduce the strain on natural resources and to promote effective resource management, which are some of the topics that are on the agenda in line with the world population growth at this point today.

The Erdemir Group has set its goal in line with this production model, which will be effective in achieving sustainable profitability and growth.

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## CLIMATE ACTION:

- To prepare Erdemir and Isdemir's CO<sub>2</sub> inventory and to determine the reduction technologies,
- To monitor of international climate change developments and to ensure their integration into the Group's plans.

Aware of its responsibility to combat climate change, the Erdemir Group revised its CO<sub>2</sub>-related target in 2016, which is linked to the Paris Agreement signed in 2015, to prepare itself for the requirements of a low-carbon economy, meaning that economic growth will be achieved with minimal carbon emissions.

Reducing CO<sub>2</sub> emissions is related to energy efficiency at certain ratios. However, given that Erdemir Group's energy performance is already at its highest level, an investigation and determination of the technologies, which could provide reductions in CO<sub>2</sub> emissions in the entire production process, was chosen as a goal in 2016.

# 15



## TERRESTRIAL LIFE:

protecting biodiversity in the region and supporting local employment.

The Erdemir Group is aware of its responsibility to conserve the world's richness in meeting basic needs such as food, shelter and fresh air. As part of the efforts to meet the target that it determined for the conservation of the ecosystem and biodiversity, which is home to this richness, the Group is taking steps together with non-governmental organizations to develop projects to conserve the presence of agricultural plants.

The Erdemir Group considers biodiversity as an issue of environmental management that deserves particular emphasis from companies operating in the production line. It is important that each company responsible for environmental impacts identify those impact areas, which are of high biodiversity value in the protected areas, and areas outside the protected areas. Aiming to bring the theme of biodiversity to the forefront in all of its companies, the Erdemir Group places importance on monitoring its environmental impacts in a multidimensional manner and organizing environmental protection and improvement plans through risk identification and prevention activities to be carried out within the scope of the environmental management system. The Biodiversity Inventory project is aimed at the improvement of habitats with the theme of territorial protection and a focus on conserving biological diversity. In line with the activities to be developed in cooperation with business managers and academic committees, the aim is to support current and future studies by assuming an active leadership role in the environmental studies carried out in the habitats where Erdemir's businesses are located.

## CORPORATE GOVERNANCE IN THE ERDEMİR GROUP

**OVERSEEING FULL COMPLIANCE WITH LAWS AND LEGISLATION, THE ERDEMİR GROUP CONDUCTS ITS ACTIVITIES IN AN HONEST, TRANSPARENT AND COMPETITIVE MANNER WITH ITS CORPORATE CITIZENSHIP.**

Overseeing full compliance with laws and legislation, the Erdemir Group conducts its activities in an honest, transparent and competitive manner with its corporate citizenship. Acting in this framework, Erdemir and İsdemir are constantly developing with the fundamental aim of maintaining a strong corporate governance structure.

The corporate governance model, which is based on the management structure of the Erdemir and İsdemir companies, is built on the principles of integrity, respect, ethics and full compliance with laws and regulatory rules.

The corporate governance principles, with which compliance was achieved, demonstrate a transparent, fair, responsible and accountable management approach.

Erdemir has accepted and abides by the Corporate Governance Principles published by the Capital Markets Board in Turkey. Due to the Company's annual report includes a separate section in which the degree to which its own corporate governance principles conform to CMB principles is described. This section is also accessible to stakeholders under a separate heading on the Erdemir corporate website.

Please see for detailed information: [https://www.erdemirgrubu.com.tr/sites/1/upload/files/Kurumsal\\_Yonetim\\_Ilkelerine\\_Uyum\\_Raporu-2016-eng-2129.pdf](https://www.erdemirgrubu.com.tr/sites/1/upload/files/Kurumsal_Yonetim_Ilkelerine_Uyum_Raporu-2016-eng-2129.pdf)

<https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMİR-06-ENG-1383.PDF>

### Structure of Erdemir's and İsdemir's Boards and Senior Management

Both Erdemir and İsdemir are joint-stock companies. Their boards of directors consist of nine members, three of whom are independent directors.

Detailed information about the members of the Board of Directors, who are selected from experienced and talented individuals, is available on the Companies' websites.

Please see for detailed information: <https://www.erdemir.com.tr/corporate/management/board-of-directors/>

<https://www.isdemir.com.tr/corporate/management/board-of-directors/>

### Erdemir Committees

Committees have been administrated Erdemir to ensure the proper fulfillment of the Board of Directors' duties and responsibilities showing are as follows:

- Audit Committee,
- Early Detection of Risk Committee and
- Corporate Governance Committee.

Matters pertaining to the frequency of these committees' meetings, their activities and operations and the procedures they must follow in the conduct of their activities and operations are set forth in related information which are accessible to stakeholders on the Company's corporate websites. All committees operate independently of one another. Final decisions are reported to the



Board of Directors, which has ultimate responsibility for any action that is taken.

Our Company has ensured the structuring of the management within the framework of the Communiqué regarding the Corporate Governance Principles.

One member is assigned for more than one committee due to the condition that requires the Auditing Committee to be made up of completely independent board members and the Chairman of the other committees to be comprised of the independent board members.

The CVs of committee-members and details of the committees', committees' working principles and duties are published both in annual reports and on the corporate website.

For detailed information, please see page 64-77 of the Erdemir Group 2016 Annual Report.

<https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMIR-06-ENG-1383.PDF>

<https://www.erdemir.com.tr/investor-relations/corporate-governance/committees/>

## **RISK MANAGEMENT AND CODE OF ETHICS**

### **Erdemir Group Code of Ethics and Anti-Corruption Policy**

In 2016, the Erdemir Group revised the Code of Ethics and Business Conduct, put into practice in 2014, which sets out the standards, ethical practices and expectations that form the basis for

the Erdemir Group's business relations and activities, in line with changing conditions and best practices. Erdemir Group Code of Ethics and Business Conduct applies to all of the Erdemir Group companies, related third parties and employees.

Erdemir Group Code of Ethics and Business Conduct sets out responsibilities under four main headings: Integrity, Avoiding Conflict of Interest, Protection of Trade Secrets and Confidentiality and Our Responsibilities. The document also provides detailed coverage of issues pertaining to receiving and giving gifts as well as attendance to activities sponsored by third parties. The mechanisms created for reporting ethical violations are described in the Code of Ethics and Business Conduct. Disciplinary rules and penalties to be applied in case of violations are stated in the Disciplinary Actions Procedures.

The Anti-Corruption Policy, which applies throughout the Erdemir Group, was put into practice in the first half of 2016 and the policy document was announced to all stakeholders on the Erdemir Group companies' websites. According to the Erdemir Group policy; regardless of being in public or private sector, accepting or giving any cash/ non-cash benefit that may be included in the scope of corruption is forbidden. It is unacceptable for any individual or organization who is in the scope of this policy to be a part of such payments under any circumstances. Erdemir Group's employees cannot be held responsible for any disruptions or delays in their business processes that may occur as a result of not making facilitation payments.

As stated in the Anti-Corruption Policy, Erdemir Group does not support illegal activities. All donations and sponsorships carried out by the Erdemir Group are managed and recorded by the Head of Corporate Relations and shared with the general public. Erdemir Group is not party to any political tendency or organization and does not donate to any political parties or politicians.

Within the scope of enterprise risk management processes, corruption risks are also assessed and continuously monitored. Works within this context are periodically reported to Early Detection of Risk Committee, which is composed of independent board members. At least once a year and in case of request, the Audit Committee, which is composed of independent board members, is informed about internal control environment, review and investigation activities with respect to corruption risks.

The Erdemir Group Anti-Corruption Policy includes issues that need to be taken into account in the establishment and carrying out of business partnerships. Procurement transactions and sales processes at Erdemir Group are conducted within transparent principles and with consideration of objective criteria. It is essential to work with suppliers who provide added value by directly taking supply responsibility, issue their own invoices, and assume financial and legal responsibility during the procurement process of goods and services. Erdemir Group works directly with its clients. Communications with the clients are held either directly with the client's corporate authorized person or through the intermediary

## CORPORATE GOVERNANCE IN THE ERDEMİR GROUP

## AS OF 2016, A TOTAL OF 3,644 EMPLOYEES OF THE ERDEMİR GROUP'S WHITE-COLLAR EMPLOYEES WERE PROVIDED WITH E-TRAINING ON THE ETHICAL GUIDELINES AND WORKING PRINCIPLES.

firms or individuals who have official representation authority. In addition to this, prior to merging with or acquiring a company; risk of corruption, internal control environment and reputation of the candidate company is carefully examined by Erdemir Group.

Erdemir Group conducts the communication of the ethical rules and anti-corruption policy with third parties with whom it has business relations through the Company websites and periodicals. Besides, since 2016, contracts entered into with suppliers have stipulated compliance with the Code of Ethics and Business Conduct and the Anti-Corruption Policy as a condition.

Erdemir Group identifies intermediaries, suppliers or contractors who are known or suspected of giving bribes and monitors them by creating a blacklist. All business relationships are terminated with potential suppliers who are on the blacklist for suspected acts of bribery or corruption, and the process of terminating contracts with existing suppliers is initiated.

Related Code of Ethics and Business Conduct, are included in the recruitment sets of those new hires in any Erdemir Group company. Also Erdemir Group employees are provided with effective training practices so as to effectively enhance their awareness of and ability to deal with issues involving ethical rules and anti-corruption practices. As of 2016, a total of 3,644 employees (86%) of the Erdemir Group's white-collar employees were provided with e-learning on the Code of Ethics and Business Conduct. In the e-learning programs, the standards of

behavior, which would be expected to be demonstrated in situations that may be faced in business life, are also explained through case studies. Annually declarations of compliance with the Code of Ethics and Business Conduct are taken in an electronic platform from the Group employees. The results are analyzed through the studies conducted jointly by the Human Resources and Internal Audit functions and action is taken when deemed necessary.

[https://www.erdemir.com.tr/Sites/1/upload/files/Erdemir\\_Etik\\_Kurallar\\_Kitapcigi\\_ING-1252.pdf](https://www.erdemir.com.tr/Sites/1/upload/files/Erdemir_Etik_Kurallar_Kitapcigi_ING-1252.pdf)

[https://www.erdemir.com.tr/Sites/1/upload/files/Erdemir\\_Group\\_Anti\\_Corruption\\_Policy-1890-1353.pdf](https://www.erdemir.com.tr/Sites/1/upload/files/Erdemir_Group_Anti_Corruption_Policy-1890-1353.pdf)

In 2016, Erdemir Group became a corporate member of the Ethics and Reputation Society of Turkey as part of the Group's ongoing efforts to ensure the sustainability of its Code of Ethics and Anti-Corruption Policy. Also in 2017, Erdemir Group representatives attended a seminar on "Business Integrity Country Agenda-Turkey" organized by TI (Transparency International) - Turkey, the Turkish Chapter of Transparency International. Participation in such organizations and events contributes both to ethics awareness and to business results.

Within the reporting period, Erdemir Group ranked third among A-group companies, including those with subsidiaries both in Turkey and abroad, in the "Business World Transparency System" survey, in which the areas of the Anti-Corruption Program, Organizational Transparency and

Country Reporting are evaluated. The survey, conducted by the International Transparency Association, covers companies traded on the Borsa İstanbul.

Please refer for the Report: <http://en.seffaflik.org/wp-content/uploads/2017/03/BICA-EN.pdf>

All Erdemir Group employees have duty and responsibility to comply with the Group's Code of Ethics and Anti-Corruption Policy, as does any stakeholder to which those policies apply. In order to ensure full compliance, a variety of Group-wise mechanisms have been installed to prevent or to identify policy breaches. Written and verbal communication channels (e-mail, post, ethics hotline) have been set up through which every stakeholder may report suspected violations and obtain explicit information about rules. All communication through these channels is subject to the Group's confidentiality principles and practices.

Erdemir Group adopts a policy that prevents attitudes and behavior, which could construed as retaliation against any employees or persons reporting an ethical violation. In 2016, reports received from the ethical communication channels were assessed sensitively through the Erdemir Group Internal Audit function and were finalized in the Ethics Committee. In the ethical investigations, which were conducted during the reporting period by our Internal Audit Unit, no significant irregularities were found.

As stated in the Disciplinary Actions Procedure, the penalties to be levied

against white-collar employees in the event of any violation of the Code of Ethics and Business Conduct consist of warnings and termination of the employment contract. The Ethics Committee determines the penalty deemed necessary following an investigation and assessment of the issue by the Internal Audit Unit. The penalties and procedures to be applied against blue-collar workers are set out in the Collective Labor Contract (CLC).

The Erdemir Group Ethics Committee has the highest authority to ensure compliance with the code of ethics and anti-corruption policy throughout the Group and to resolve incompliances. Ethics Committee consists of the Chairman of the Board of Directors and the Managing Director, top managers of Group Human Resources and Group Legal Departments. Head of Internal Audit acts as the secretary of the Ethics Committee. Erdemir Group Ethics Committee is responsible for the dissemination and understanding of the Code of Ethics and Business Conduct, updating them when deemed necessary, examining any reports of violations and making decisions in accordance with the disciplinary actions procedure.

The Ethics Committee is responsible for the resolving any irregularities regarding white-collar employees working at all levels of the central management units at the Erdemir Group and all the Erdemir Group white-collar employees who hold managerial or higher positions. Any ethical irregularities in connection with the General Manager, Assistant General Manager, Coordinator or the managers who works directly under the Chairman of the Board of Directors

**THE ERDEMİR GROUP RANKED THIRD AMONG A-GROUP COMPANIES IN THE “BUSINESS WORLD TRANSPARENCY SYSTEM” SURVEY, CONDUCTED BY THE INTERNATIONAL TRANSPARENCY ASSOCIATION, COVERS COMPANIES TRADED ON THE BORSA İSTANBUL.**



## CORPORATE GOVERNANCE IN THE ERDEMİR GROUP

## THE INTERNAL AUDIT DEPARTMENT CONDUCTS EXAMINATIONS AND INVESTIGATION ACTIVITIES RELATED TO THE ISSUES THAT CONSTITUTE IRREGULARITY WITH THE ERDEMİR GROUP CODE OF ETHICS AND BUSINESS CONDUCT, AND WORKING PRINCIPLES AND THE ANTI-CORRUPTION POLICY.

are resolved within the scope of the units and processes within the OYAK General Directorate. When the Ethics Committee decides by a majority vote, and in the event of a tied vote, the outcome shall be determined by the decision of the Chairman of the Committee. The Committee's decisions are recorded and archived by the Head of Internal Audit.

Sub-ethics committees are responsible for resolving any irregularities related to blue-collar employees or white-collar employees who work under managers outside the central units. The company's Human Resources Manager and the legal representative are involved in the ethics committees for the blue-collar employees. The General Manager of the Company is also included in the sub-ethics committee established for the white-collar employees in addition to these persons. The Internal Audit representative serves as the reporter for these committees.

### Internal Audit System

The Erdemir Group Internal Audit Unit conducts risk-based audit activities to provide the Board with an objective and independent assurance of whether the systems of risk management, internal control and governance processes, designed and implemented by the management, is adequate and effective. The purpose, authority and responsibilities of the Internal Audit Department were determined with the Internal Audit Charter. The Internal Audit Department, which is in charge of evaluating the Erdemir

Group companies' risk management, control and governance processes and developing them, reports directly to the Chairman and Managing Director.

In accordance with the relevant communiqué of the Capital Markets Board (CMB), the effectiveness of the internal control system is assessed at least once a year by the Board of Directors. In this context, the Internal Audit Department regularly informs the Audit Committee, which consists of independent members of the Board of Directors, about the internal audit activities.

During the audits, any risks, which may be related to corruption within the relevant units and processes, are addressed in detail. It is ensured that actions are taken to strengthen the internal control environment. Within the scope of the audits carried out during 2016 in the various business processes of the 5 Group companies, which were included in the audit program, corruption risks were assessed and no case of corruption was found.

The Internal Audit Department conducts examinations and investigation activities related to the issues that constitute irregularity with the Erdemir Group Code of Ethics and Business Conduct and the Anti-Corruption Policy. The Audit Committee, which consists of independent members of the Board of Directors, is regularly informed of the activities carried out by the Internal Audit Department and the results thereof.



### Policies and Regulations Adopted by the Erdemir Group

The policies and regulations improved by the Erdemir Group in various and, which are put into practice in the related units are as follows:

- Code of Ethics and Working Principles and Anti-Corruption Policy
- Public Disclosure Policy
- Compensation Policy
- Donations and Contribution Policy
- Staff Compensation Policy
- Dividend Distribution Policy
- Audit Committee Regulation
- Corporate Governance Committee Regulation
- Early Detection of Risk Committee Regulation

Please see for detailed information: <https://www.erdemir.com.tr/investor-relations/corporate-governance/policies-and-regulations/>

The Erdemir Group has also published comprehensive policies concerning human resources, occupational health and safety, management systems.

### Corporate Governance Rating

Erdemir has committed itself to complying with the set of corporate governance principles published by the Capital Markets Board and to making arrangements so as to ensure its continued compliance with those principles when circumstances require.

According to the corporate governance principles compliance rating report issued by Kobirate International Credit Rating and Corporate Governance Services, the Erdemir Group achieved an overall score of 9.02/10 under the four main topics. Erdemir participated in the study where compliance with

Corporate Governance Principles was assessed with the high score that it received; it once again proved that it is a transparent, fair, responsible and accountable institution. At the same time, it also means that the Erdemir Group qualified at a high level to be included in the BIST Corporate Governance index.

For the report, please see: [https://www.erdemirgrubu.com.tr/sites/1/upload/files/erdemir\\_cgcrating\\_report\\_29072016\\_\(1\)-1919.pdf](https://www.erdemirgrubu.com.tr/sites/1/upload/files/erdemir_cgcrating_report_29072016_(1)-1919.pdf)

### Erdemir Group-Supported Initiatives and Industrial Associations

The Erdemir Group believes that the multilateral collaborations and initiatives undertaken in the business world are important to resolving current problems and to identifying potential future problems and taking measures needed to resolve them. And also believes it is important to increase public awareness of critical issues, such as environmental problems; climate change, global warming, deterioration of ecological balance, reduction of natural resources, etc. which threaten the future of humanity.

In this context, the Erdemir Group brings activities focused on solving problems from the exchange of information to the transfer of know-how with organizations from different sectors, besides the iron and steel sector.

In line with this approach, the Group enters into and maintains good relations with organizations such as associations, institutions and professional/industrial chambers.

### Initiatives, associations and chambers

The main initiatives, associations and chambers in which Erdemir Group is a member, are listed below.

- International Chamber of Commerce Turkish National Committee
- World Energy Council Turkish National Committee (WEC-TNC)
- World Steel Association (Worldsteel)
- The European Steel Association (EUROFER)
- İstanbul Chamber of Industry
- Turkish Steel Exporters' Association
- Turkish Steel Producers Association
- Corporate Governance Association of Turkey
- Turkish Ethics and Reputation Society
- Turkish Investor Relations Association
- Turkish Quality Association
- People Management Association of Turkey
- Turkish Marine Environment Protection Association (TURMEPA)
- Transparency International

The Erdemir Group is also Vice President of TOBB (The Union of Chambers and Commodity Exchanges of Turkey) Climate Change and Environment Committee and a member of the Greenhouse Gas Mitigation Working Group set up by the Republic of Turkey Ministry of Environment and Urbanization.

## STAKEHOLDERS AND STAKEHOLDER RELATIONS

**THE ERDEMİR GROUP CARRIES OUT ITS ACTIVITIES IN INTERACTION AND COMMUNICATION WITH ITS STAKEHOLDERS THROUGH VARIOUS CHANNELS.**

The Erdemir Group with a large stakeholder base carries out its activities in interaction and communication with its stakeholders through various channels. It learns the demands, expectations and opinions of the stakeholders and transfers them into their strategies.

Related stakeholders; which the Group has strong and sustainable relationships set; consists of analysts, the media, the public, NGO's and public institutions, as well as employees, potential employees, customers, shareholders and suppliers.

**Stakeholder groups, communication channels and stakeholder participation**

**Stakeholder Groups**

**Employees**

**Communication Channels and Stakeholder Participation**

Erdemir and İsdemir use different communication channels to learn the expectations of their employees, to introduce means to meet their communication needs in line with their expectations, to establish an open line of communication between the institution and the employees, to reveal team spirit and to maintain the understanding of "us", to reinforce employees' sense of belonging, to contribute to their motivation and to share knowledge.

- The opinions, suggestions and feedback communicated to the system through various means such as the organizational health survey, face-to-face interviews within the scope of performance system, suggestion systems, the Ethics Committee and Corporate Reputation Survey by the employees are considered to be important sources of information and development needs are turned into opportunities.
- Çelikten Gelecek (the Future from Steel) newspaper distributed throughout the Group, raises employees' awareness of the developments in the Group. It also allows the success of employees and their social activities to be spread throughout the Group.
- Intranet - Steel Portal, an internal communication channel, shares the information that may be needed, such as the Group's agenda, internal news and developments, HR applications, manager messages, weather forecast by location, menu list, idea pool, personal announcements and phone list in addition to special days like employees' birthdays, and anniversaries.
- The Erdemir Group TV has been serving as an innovative communication means throughout the Group since 2015. The Erdemir Group TV features institutional developments, activities and novelties aimed at employees, management messages, health and OHS topics and general cultural programs.
- Personnel-oriented events such as Company anniversaries and New Year's celebration are used to strengthen and foster inter-employee communication and to contribute to general motivation and morale.

| Stakeholder Groups                                 | Communication Channels and Stakeholder Participation   |
|--|--|
| <p><b>Potential Employees</b></p>                  | <p>Erdemir and İsdemir, who are working to bring new talent to the institution:</p> <ul style="list-style-type: none"> <li>· Take part in universities' career days and other events in order both to solicit students' opinions and to effectively promote the Erdemir Group by this way.</li> <li>· Use social media, traditional media and websites to provide timely information about the Group.</li> <li>· Accept job queries and applications through their websites.</li> <li>· The Company's brand perception is systematically measured through Corporate Reputation Surveys.</li> </ul>   |
| <p><b>Customers</b></p>                            | <p>In their capacity as much-in-demand sources of steel-industry products and services, both Erdemir and İsdemir engage in close communication with their customers through an extensive and specialized industry-based marketing and sales network in order to address the widely diversified needs and expectations, which their customers have.</p> <ul style="list-style-type: none"> <li>· Erdemir engage with their customers through individual meetings, visits and satisfaction surveys in order to discover customers' wishes and expectations and to improve product and service quality in line with changing market conditions and demands. Customer complaints from Erdemir and İsdemir are collected through "Erdemir online" the Erdemir Group portal. Upon receipt, such complaints are examined by the after sales service unit on location, issues which are in need of correction are identified, action is taken as necessary and problems are resolved as expeditiously as possible by the units in cooperation with the quality groups.</li> <li>· Customers are provided with whatever information they may require not only by means of product catalogues, technical information visits and plant tours but also through technical training programs related to steel and steel usage, which are organized in line with needs. Support is given to local and international clients by participating in the design phase of new projects.</li> <li>· Customer-oriented events such as "Industry Days" are staged; customers are kept informed about developments through corporate websites.</li> </ul> |
| <p><b>Shareholders, Investors and Analysts</b></p> | <p>Relations with shareholders, institutional investors and analysts are conducted so as to systematically support Group companies' brand value.</p> <ul style="list-style-type: none"> <li>· Erdemir shares are traded on the "BIST Star" equity market. Whenever Erdemir receives written or verbal requests for information from its shareholders, it responds to them without delay through its investor relations unit and in accordance with capital market laws and regulations.</li> <li>· Material events are announced as soon as they transpire through the Public Disclosure Platform.</li> <li>· Corporate websites are used to publicly disclose corporate governance compliance reports, annual reports, investor presentations and material events in both the Turkish and English languages.</li> <li>· Shareholders may forward any requests for information or suggestions they may have to the Company through its investorrelations@erdemir.com.tr e-mail address.</li> <li>· Matters included in agenda, which are shared with shareholders before the General Assembly Meeting, is decided at General Assembly Meeting.</li> <li>· Company representatives take part in roadshows and conferences and conduct investor meetings.</li> </ul>   |

## STAKEHOLDERS AND STAKEHOLDER RELATIONS

| Stakeholder Groups | Communication Channels and Stakeholder Participation  |
|--------------------|---|
| Suppliers          | <p>In their dealings with their suppliers, both Erdemir and İsdemir take a relational development approach that creates value for Group and all the parties involved.</p> <ul style="list-style-type: none"> <li>· For the procurement of all their outsourced products and services, both companies communicate clearly with their suppliers in a variety of ways that include face-to-face meetings.</li> <li>· Company representatives visit suppliers' premises.</li> <li>· Corporate websites are used to keep suppliers informed about current developments, to publish annual and sustainability reports and to provide information about yearly economic, environmental and social activities.</li> </ul>   |
| Media              | <p>A close and open dialogue approach with local and regional media organizations is adopted with the principle of effective and sustainable communication in order to demonstrate and convey the Erdemir Group's stance, its perspective and attitude in the face of any event- situation, and to contribute to the Group's reputation in the best possible way. The Group works to the principle of sharing accurate, transparent and up-to-date information with the media in a timely and understandable manner.</p> <ul style="list-style-type: none"> <li>· Newsworthy developments about the Group and its members are disclosed through media press conferences, interviews, press releases and tours of Erdemir plant facilities.</li> <li>· Corporate websites provide access to press releases, annual and sustainability reports and social media platform developments.</li> <li>· Questions from the press are responded to verbally and in writing.</li> <li>· Corporate Reputation Surveys are conducted in order to determine media concerns' perceptions about the Group and its members.</li> <li>· The Environmental Impact Assessments (EIA) that are conducted before undertaking new investments are announced through media, whose representatives are invited to take part in EIA hearings.</li> </ul> |
| Society            | <p>As a corporate citizen, which values society and people, The Erdemir Group is primarily concerned with developing and maintaining good relations with the society.</p> <ul style="list-style-type: none"> <li>· Socially beneficial activities and projects are undertaken.</li> <li>· Corporate websites and social and other media channels are used to provide timely information.</li> <li>· The Company's brand perception is systematically measured through Corporate Reputation Surveys.</li> <li>· EIA meetings that are conducted before new investments are undertaken are open to the public.</li> </ul>   |
| NGOs               | <p>In order to create common platforms, to deal with common strategic issues and to develop solutions to existing problems the Erdemir Group enters into and maintains relations with national-level non-governmental organizations such as coalitions, associations and professional/industrial chambers.</p> <ul style="list-style-type: none"> <li>· Erdemir Group representatives join such organizations, take part in their management and attend their meetings and play active roles in their working groups.</li> <li>· Erdemir Group representatives attend NGOs' presentations and conferences, exchange knowledge and experience with them and take advantage of learning opportunities.</li> <li>· Information about current developments is made available through Erdemir Group corporate websites.</li> <li>· Representatives of NGOs are invited to attend the public EIA meetings that are conducted before new investments are undertaken.</li> <li>· The Company's brand perception is systematically measured through Corporate Reputation Surveys.</li> </ul>   |

| Stakeholder Groups                | Communication Channels and Stakeholder Participation  |
|-----------------------------------|---|
| Public Agencies and Organizations | <p>The Erdemir Group and its members believe that it is important to maintain good relations with public agencies and organizations in accordance with the requirements of laws and regulations and the rules of ethical conduct.</p> <ul style="list-style-type: none"> <li>· All reporting and disclosures are carried out as mandated by laws and regulations.</li> <li>· Group representatives attend meetings to deal with industry-related problems.</li> <li>· Public agencies' and organizations' requests for information, opinions and recommendations are responded to.</li> <li>· Information about current developments is made available through Erdemir Group corporate websites.</li> <li>· Public agencies and organizations are invited to send representatives to attend the public EIA meetings that are conducted before new investments are undertaken.</li> <li>· The Company's brand perception is systematically measured through Corporate Reputation Surveys.</li> </ul>   |
| All Stakeholders                  | <p>Erdemir Group companies attach importance to organizing the web pages in a manner that allows easy access to any information that their stakeholders may request. As the face of companies opening to the outside world, corporate internet websites allow visitors to access information that they are looking for quickly and in a practical manner with their simple interface and user-friendly design.</p> <p>The Group's corporate websites contain forms and email addresses (<a href="mailto:iletisim@erdemir.com.tr">iletisim@erdemir.com.tr</a>, <a href="mailto:grupiletisim@erdemir.com.tr">grupiletisim@erdemir.com.tr</a>, <a href="mailto:info@isdemir.com.tr">info@isdemir.com.tr</a>) which all stakeholders may use to submit requests, suggestions, opinions and complaints about general and specific issues such as Erdemir's and Isdemir's business processes, environmental performance, etc. Requests and feedback received through these channels are directed to the appropriate company units and dealt with.</p> <p>Erdemir Group Code of Ethics and Business Conduct a document that is published on the Group's corporate websites also provides stakeholders with information about how matters that are contrary to Group companies' rules and/or deemed to be unethical may be reported to ethics committees and/or their advisors.</p> |

**The Erdemir Group attaches special importance to the EIA (Environmental Impact Assessment) Public Participation Meetings in its communication with stakeholders and in investment activities.**

The Erdemir Group conducts environmental impact assessments in cases such as when carrying out new and existing investments and the renewal and modernization of facilities. The Group sees the EIA Public Participation Meetings as an absolute necessity at this level.

Based on the EIA and environmental values, the Group ensures that the necessary measures are taken by determining any potential negative environmental impacts, either

permanent or temporary, of any planned investment or activity.

Local people participate in the EIA meetings announced in local and national newspapers and express their opinions and suggestions. EIA reports of new investments to be carried out are revised together with the people's evaluations gathered from the meetings and the reports are submitted to the legal authorities.

In this vein, positive decision for the EIA for the 6<sup>th</sup> Steam Boiler project and "Environmental Impact Assessment is not Required" decision were issued for the No. 4 Coke Battery and By-Product Plant Capacity Increase project in Erdemir in 2016.

In Isdemir, Electrical Station (Electrical Arc Ladle Furnace) - Dedusting & Water Cooling Systems Modernization, Hot Rolling Mill Harmonic Filter / Compensation System Modernization, Slab Marking Machine projects were exempted from the EIA and "Environmental Impact Assessment is not Required" decision were issued for Modernization of No. 3. Coke Oven Battery.



## SUPPLY CHAIN MANAGEMENT

**SUPPLIER RELATIONS MANAGEMENT IS CARRIED OUT IN ACCORDANCE ON THE CONDITION THAT THERE IS A POSITIVE CONTRIBUTION TO THE SUSTAINABILITY OF THE GROUP AS THE FIRST PRIORITY, AND THEN TO THE ENVIRONMENT.**



**The Erdemir Group, a leading steel producer, carries out its activities within a wide and extended supply chain.**

In the Erdemir Group, the procurement of raw materials, auxiliary raw materials and other consumables required for timely production at the requested quality in accordance with the needs of the facilities, which work to an intensive production cycle throughout the year, is of the utmost importance. The procurement of materials is carried out by the procurement units.

Supplier relations management, which comes to the forefront at this point, is carried out in accordance on the condition that there is a positive contribution to the sustainability of the Group as the first priority, and then to the environment.

The Erdemir Group conveys the sensitivity it shows to the environment to its candidate suppliers. The Erdemir Group chooses suppliers who pay attention to environmental issues, demonstrating respect to the environment in all of their operations from the supply of material to the supply process, and whose operations have no adverse effects on the natural environment. The Group prefers suppliers, which attach importance to sustainability and take action in this regard.

The purchasing and supplier evaluation performed in the Erdemir Group is carried out with procedures and instructions.

Information on the Erdemir Group's relations, strategies and work carried out regarding its suppliers include the following processes.

### Supplier strategies

Supplier classification is carried out by examining their market positions within the framework of strategies determined through joint studies conducted with international consulting companies.

### Supplier application process

All procurement transactions in the Erdemir Group, which exceed set limits, are published online through an e-procurement platform in accordance with the Group Transparency Policy and within the terms of the offers.

Companies wishing to offer a quotation may sign up to the supplier application section on the platform and fill in the required information in accordance with the purchase order.

In addition, suppliers who have bidding status during the quotation collection process and procurement are expected to comply with the ethical values set out in detail on the Erdemir Group corporate website.

Companies complying with the criteria are registered in the system with bidding status after obtaining the required approval.

### Necessary criteria in selection of suppliers

The Erdemir Group procures in various categories. The main procurement categories consist of the following:

- Raw materials,
- Material,

- Service and
- Project-based work

In line with the type of purchase, a wide range of criteria are taken into consideration, including the financial status of suppliers, the number of employees, the quality certificates that they hold and their capacities.

### Supplier visits

Depending on the importance of the types of material, suppliers receive periodical visits and detailed reviews are conducted at the production facilities of the suppliers in Turkey and throughout the world, and all stages are supervised from the material production processes to the quality control systems.

### Supplier development

Within the objective of providing procurement security in the Erdemir Group, new supplier exploration and finding activities are carried out for the products with a few suppliers. For this purpose, communication with new suppliers is initiated by participating in sectoral conferences, fairs and events, and those who succeed in the trial period are taken to the supplier status.

### Supplier risk analysis

Since sustainability in supply is of vital importance for the production cycle, risk analysis is carried out by following up the markets, sectoral publications and establishing continuous communication with suppliers, and necessary action plans are prepared.

**THE ERDEMİR GROUP, WHICH IS A WIDE RANGE OF CRITERIA ARE TAKEN INTO CONSIDERATION, INCLUDING THE FINANCIAL STATUS OF SUPPLIERS, THE NUMBER OF EMPLOYEES, THE QUALITY CERTIFICATES THAT THEY HOLD AND THEIR CAPACITIES.**



## SUPPLY CHAIN MANAGEMENT

**VARIOUS PROJECTS ARE BEING CARRIED OUT IN ORDER TO IMPROVE AND INCREASE THE PERFORMANCE OF MATERIALS AND TO REDUCE OCCUPATIONAL HEALTH AND SAFETY RISKS IN COOPERATION WITH THE SUPPLIER COMPANIES AND THE ERDEMİR GROUP TECHNICAL TEAMS.**

#### Supplier performance evaluations

Supplier performance is systematically monitored in the Erdemir Group. In addition to sustainability, supplier companies are evaluated in terms of price, quality, delivery, market power and classified according to their scores. Within the scope of this scoring, the following have been realized;

- The Group does not work with Class D suppliers,
- Improvement plans are prepared for class C suppliers,
- Class B suppliers are given verbal-written warnings with a request for the measures to be taken,
- The Group continues to work with Class A suppliers without taking any action

In 2016, the Erdemir Group carried out a 12-month supplier evaluation of 8,223 companies within the Group.

#### Improvement activities carried out jointly with suppliers

Various projects are being carried out in order to improve and increase the performance of materials and to reduce occupational health and safety risks in cooperation with the supplier companies and the Erdemir Group technical teams.

#### Supply understanding that adds value to suppliers as well as the Group

With such a comprehensive and rich supplier portfolio, Erdemir and Isdemir add value to the Group and suppliers in the process of procuring goods and services. Erdemir and Isdemir aim to provide the highest level of benefit in terms of cost, quality and time.

#### An extensive evaluation list in supplier relationships

Within the scope of sustainability strategies, the Erdemir Group prepared an evaluation list for integrating priority issues with the procurement processes. Suppliers are evaluated on the basis of various evaluation criteria in the evaluation list. In this context, Erdemir Group suppliers are encouraged to apply methods in line with the "sustainable steel" philosophy.

These criteria are:

- Environment, OHS and energy management systems,
- Human rights policy and associated practices,
- Transportation of hazardous materials and items,
- Environment and energy efficiency-related activities, permits, liabilities,
- Existence of sustainability strategies and investments associated with them.

### Measures regarding fuel used by ships

One of the important measures aimed at suppliers in the Erdemir Group concerns the content of fuel used by ships. Within the framework of Annex VI of the International Convention for the Prevention of Pollution from Ships (the MARPOL Protocol), ships must use fuels that contain no more than 0.10% sulphur with the borders of Emission Control Areas (the ECA Zone)<sup>3</sup>. The sulphur rate for non-ECA zones is set at a maximum of 3.50%, which will be reduced to 0.50% with effect from 1 January 2020.

In contracts that the Erdemir Group enters into with its suppliers, the Group stipulates that ships, which suppliers use in their activities, hold international certifications such as the "International Oil Pollution Prevention Certificate" (IOPP), and the Group requires that the validity period of the certificates continue.

### Highlights from the environmental measures taken and applied by the MV Fortune Express ship, which is leased by the Erdemir Group

As a result of efficiency attained thanks to fuel savings after the transformation to LED lighting, work continued on reducing the carbon footprint.

The method of reducing sulphur emissions was applied by maximizing combustion efficiency with accurate and appropriate planned maintenance.

Additional fuel consumption with the port boiler is prevented by ensuring that the chimney boiler is kept in operation when sailing, resulting in sulfur reduction. This application continues.

Carbon emissions are reduced to the lowest level with the use of low sulphur MDO (Marine Diesel Oil)

### Waste Management Company Auditing Checklist

The Waste Disposal Companies Audit Checklist, which was first put into practice in 2015, is used in the selection of waste disposal companies with which the Erdemir Group has cooperated or will cooperate. The checklist is also used when field visits are conducted to the waste disposal company.

The measure is aimed at ensuring the Erdemir Group waste management criteria are implemented by suppliers. At the same time, the measure is envisaged to be a pioneer in increasing sustainable methods that respect the environment in the areas where the Group has business relations.

Within this scope, three companies receiving hazardous waste and which produce alternative fuel from solid waste, and the mineral oil plant where 1<sup>st</sup> category waste oil is sent to, were audited.

Within the scope of the audits, the companies were examined in the areas of environmental permits obtained from the Ministry of Environment and Urbanization in a manner to cover waste produced by the Erdemir Group, whether they are subject to the Environmental Impact Assessment (EIA), the annual declarations required to be made to the Ministry of Environment and Urbanization systems, the licenses of waste carrying vehicles and the vehicles adequacy, their registration to the Mobile Hazardous Waste Tracking System (MOTAT), the documentation of the waste carrying personnel, facility emergency plans and drills, their business opening and working license, waste management analysis carried out and their records, radiation safety, whether or not any environmental penalties have been levied, treatment plants, emission measurement reports, wastewater analysis reports, whether or not the ISO 14001 Environmental Management System certificate is held, waste management rules and natural resource consumption.

<sup>3</sup> The ECA Zone includes the Baltic Sea, the North Sea, North America (designated coastal areas outside the USA and Canada), and the USA Caribbean Sea (Puerto Rico and around the USA Virgin Islands).



# EFFICIENCY

AS A GLOBAL CORPORATE CITIZEN AWARE OF ITS RESPONSIBILITIES, THE ERDEMİR GROUP IS FOCUSED ON EFFICIENCY IN ALL BUSINESS PROCESSES.







## THE ERDEMİR GROUP SUSTAINABILITY PRIORITIES

**THE TOPICS THAT DIRECTLY CONCERN THE ACTIVITIES OF THE ERDEMİR GROUP WILL ALWAYS BE INCLUDED IN THE PRIORITIES OF THE GROUP.**



In 2016, the process of identifying sustainability priorities and drawing up related plans for the future were carried out in the Erdemir Group as part of work taking place on three different axes by deploying the table-top analysis methodology.

- Feedback pertaining to primary sustainability categories, which was received by units that interact with external stakeholders (customers, suppliers etc.) which they forwarded to Group management and Sustainability Directors.
- Wishes, expectations and opinions expressed by employees through various channels,
- Feedback received from NGOs and their representatives.

In the determination of priorities, the following topics were emphasized; directly related to the Group's core business activities, deemed to be important by core stakeholder groups, capable of having an impact on stakeholders with whom the Erdemir Group interacts or might interact.

The topics that directly concern the activities of the Erdemir Group will always be included in the priorities of the Group. At the same time, the results found from the prioritization work will be inputted to many topics such as the Erdemir Group's determination of strategies in the upcoming period, improving service processes and the development of new products.

In the period ahead, the Erdemir Group intends to manage these and similar issues by conducting broad-based focus-group meetings and surveys at regular intervals.



## ERDEMİR GROUP'S SUSTAINABILITY PRIORITIES



### ECONOMIC

Ethical Management and Full Compliance with Laws

Continuous Improvement of Financial and Operational Performance

Innovation Management



### ENVIRONMENTAL

Environmental Investments

Waste Management

Bringing Waste into the Economy

Water Management

Reduction of Emission

Compliance with Environmental Legislation

Efficient Use of Energy

Life Cycle Assessment and Resource Efficiency Studies

Ecolabelling

Climate Change and Energy Management

Biodiversity



### SOCIAL

Development of HR

OHS Practices

Contribution to Society Development through CSR Projects

## THE VIEWS OF THE GENERAL MANAGERS OF ERDEMİR AND İSDEMİR



**THROUGHOUT ITS PRODUCTION JOURNEY, ERDEMİR HAS BEEN A COMPANY, WHICH HAS DEVOTED THE HIGHEST LEVEL OF CARE TO THE PROTECTION OF THE ENVIRONMENT, WHILE EQUIPPING ITS FACILITIES WITH ENVIRONMENTALLY FRIENDLY TECHNOLOGIES, SHAPING ITS ACTIVITIES BY TAKING INTO ACCOUNT THE NEEDS OF NATURAL RESOURCES AND DEVELOPING OPEN AND TRANSPARENT RELATIONS WITH STAKEHOLDERS.**

Throughout its production journey, Ereğli Demir ve Çelik Fabrikaları TAŞ, the parent company of the OYAK Mining and Metallurgical Group, has been a company which has devoted the highest level of care to the protection of the environment, while equipping its facilities with environmentally friendly technologies, shaping its activities by taking into account the needs of natural resources and developing open and transparent relations with stakeholders within the value chain.

The OYAK Mining and Metallurgical Group views the elements of economic development, environmental sensitivity and social responsibility to be indistinguishable from one another, and we consider the sustainability philosophy as the guarantee of the future that we will leave to future generations.

While continuing our activities in our production facilities, we identify potential environmental risks and take measures against these risks. We keep the impact of our activities on the environment under control by monitoring the impacts with continuous measurements and implementing improvement activities and investments to minimize these impacts. We plan to implement new projects aimed at the protection of natural resources and utilizing them in the most effective manner in all of our facilities. The technology that we use in

these projects also contributes to the development of the economy through the efficient use of reserves with vital importance.

As a company with a working culture that provides financial success while honoring its environmental and social responsibilities, we use our resources for the investments that we undertake in the future of our country and our world. We set an example by allocating about US\$ 57 million to environmental and energy investments in 2016. We achieved a first in our country with our studies on the usage of the slag produced during production in the cement industry.

Backed by deeply rooted history, which we are proud of, we continue to move forward towards achieving sustainable world with a belief that we will advance our sustainable presence even further with innovation, a qualified workforce and expertise in technology. In this report, I am delighted to present the activities which we have carried out in the field of sustainability to further advance the society which we live in and our economy, and to make the world more habitable. I would like to thank our employees and all our stakeholders for their support that has given us such strength.

**Sedat Orhan**  
Erdemir General Manager

Of course, energy is undoubtedly one of the important expense items in the iron and steel industry, which has many inputs. With the awareness of the need to efficiently use İsdemir resources, we maintain the activities aimed at energy conservation in production lines and quality-focused improvement activities with our principles of sustainable development.

Since February 2002, our energy efficiency activities and investments have brought energy savings amounting to 41%. As one of the successful companies in specific energy consumption and with the TS ISO 50001 Energy Management System Certification in the sector, our energy management activities, which we set each year, include the targets of consuming less energy. All our energy efficiency projects implemented in line with our energy targets contribute to reducing the environmental impact of our activities as well as increasing our profitability.

We believe the industrial sector is one of the most important players in combating climate change. We are setting out our goals and roadmap in the process of developing a low carbon economy. We also take into account the results of national and international developments regarding climate change in our energy and growth investments. In addition to our energy targets, we also monitor our CO<sub>2</sub> emissions. In 2016, we reduced

our CO<sub>2</sub> emissions by 404,242 tons, in another indication of our achievements in energy efficiency. We are proud to have won first prize in the "Projects to Increase Energy Efficiency in the Industry" (SEVAP-3) category in the "Energy Efficiency in the Industry Project Competition" organized by the Ministry of Energy and Natural Resources in 2016.

The cost of the energy and environment investments, which we have undertaken in the last 5 years, amounts to approximately US\$ 75 million. We will maintain our sustainable steel production with the targets of zero waste, that we set in 2016, and to include all process wastes again into steel production chain within the scope of this target; achieving a self-sufficient structure in electrical energy and completing the initiatives that will take us to this structure within the 5-year plan; and the zero discharge target, to reset our water footprint.

I would like to extend my thanks to all of our stakeholders and our colleagues while continuing our path for a sustainable world with the steel production that we see as the backbone of the low carbon economy.

**Toker Özcan**  
İsdemir General Manager



**ALL ENERGY EFFICIENCY PROJECTS IMPLEMENTED IN LINE WITH İSDEMİR ENERGY TARGETS CONTRIBUTE TO REDUCING THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES AS WELL AS INCREASING PROFITABILITY.**



## ECONOMIC PERFORMANCE

### PRODUCTION AND SERVICES

**AS ONE OF THE SECTOR'S REPUTABLE, RESPECTED AND EXEMPLARY COMPANIES, THE ERDEMİR GROUP IS SUCCESSFULLY IMPLEMENTING ITS STRATEGIES.**



**As one of the sector's reputable, respected and exemplary companies, the Erdemir Group is successfully implementing its strategies.**

**The year 2016 was a year in which the Erdemir Group increased its production and efficiency.**

Erdemir Group companies kept customer satisfaction at the forefront of their activities in 2016, without deviating from the principle of low costs, high efficiency and quality production.

Erdemir Group, which single-handedly produced 28% of Turkey's crude steel in 2016. Also, the Group reached 9.2 million tons of crude steel, marking an increase of 3% compared to the previous year.

For information on the development of Erdemir and İsdemir's production over the years please refer to page 32 of the Erdemir Group 2016 Annual Report, Production Table by Year.

<https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMIR-06-ENG-1383.PDF>

**Continually increasing service quality in line with customer expectations**

The Erdemir Group, the solution partner of its customers, offers quick solutions to meet the needs of its customers.

Enriching and diversifying its product range according to customer needs and expectations, the Erdemir Group maintains its world-class product

quality and meets the demands of abroad as well as the whole country in a complete, accurate and timely manner.

The Erdemir Group works diligently on its service offering as well as in the products it manufactures. It is present in the supply chain of its customers with services such as stocking, production at precise tolerances and door delivery dispatch.

Performing sales and marketing activities on a sectoral basis, the Erdemir Group also closely follows up-to-date trends in the global steel industry and develops sales strategies that are appropriate to the dynamics of the market.

In 2016, the Erdemir Group succeeded in meeting its sales targets under market conditions dominated by raised uncertainty and low predictability. The success was achieved on the back of customer focus, effective sales-marketing activities, product quality and new product development studies as well as an impeccable service understanding, backed as always by the knowledge and skills of its human resources.

**A World-Class Steel Brand**

Erdemir Group continued to increase the share of high value added products in total shipments and sold 8.8 million tons of finished steel products in 2016. Total sales revenue stood at US\$ 3.9 billion.

Erdemir Group's export rate increased by 28% YoY, despite slowing world trade and rising protectionist measures.

With its identity as a reliable steel supplier, the Erdemir Group was once again one of the most sought after and popular companies both in Turkey and on the international platform in 2016.

#### **Erdemir products enjoy popularity the world over, from South America to the Far East**

Adding value to human life and shaping our lives, the Erdemir brand reached its buyers in a total of 42 countries worldwide in 2016.

In 2016, Erdemir Group exported a total of 1.1 million tons of final products, which were shipped to a wide geographical region extending from South America to the Far East. Such exports, including 890 thousand tons of flat products and 197 thousand tons of long products.

The Group's flat steel exports increased by 29% YoY in 2016 compared to the previous year while exports of long products increased by 22% YoY. Exports accounted for 12.4% of total sales.

#### **Making a difference with its competitive position**

The Erdemir Group commands high brand value in the domestic and international markets with its competitive clout backed by its productivity, reputation, agility, fast decision-making ability and successful risk management.

In addition to the regularly conducted customer satisfaction surveys, the Erdemir Group employed an independent organization to conduct a Product Perception Survey in 2016 to measure customer perception in six main product groups, the first time such a survey has been performed. Conducted online, the customer perception of the Group's products was evaluated in detail by the customer's technical teams with the Product Perception Survey. The Survey, consisting of four main headings (packaging, preparation for the customer process, process performance and technical support) and 34 questions, was answered by customers who are responsible for 90% of the Group's shipments. Comparisons were made with the main competitors in the product groups of hot rolled steel, cold rolled steel, galvanized steel, packaging steel, steel plate and coil. In the assessment carried out by the customers, the Erdemir Group was found to differentiate itself from all of its competitors with its score of 63 points that it received in terms of general product perception. The Group's success in the competition was also confirmed by an independent organization.

The feedback received from those using Erdemir Group products will continue to guide the Group in all of its activities, especially in investments, in order to protect the competitive and successful structure of the Group going forward.

**IN 2016, THE ERDEMİR GROUP'S EXPORT RATE INCREASED BY 28% YOY.**



## INNOVATION MANAGEMENT

### CUSTOMER RELATIONSHIP MANAGEMENT

#### THE ERDEMİR GROUP ASSESSES CUSTOMER FEEDBACK THROUGH THE CUSTOMER SATISFACTION AND COMMITMENT SURVEY CONDUCTED BY AN INDEPENDENT SURVEY COMPANY.

The Erdemir Group is focused on adding value to the customer base consisting of different sectors and users and establishing mutually sustainable and strong relationships.

The Erdemir Group aims to keep customer satisfaction and commitment high at all times. The Erdemir Group distinguishes itself with its 51 years of experience, international know-how and market knowledge by using time soundly and effectively, in addition to its rich product and service range in responding to the demands and needs of its customers and resolving possible problems.

#### Value created for customers

The Erdemir Group assesses customer feedback through the Customer Satisfaction and Commitment Survey conducted by an independent survey company. The aim of the survey is as follows:

- To determine the power of Erdemir in terms of satisfying its customers and maintaining customer loyalty,
- To provide advice that will help Erdemir take action and shed light on strategic plans by identifying Erdemir's strengths, areas that it should protect and areas that should be developed,
- To identify progress in various areas by comparing the results of the survey with the results of past years.

Action plans are prepared with meetings held with the relevant units

after identifying areas of strength and those open to improvement according to the results of the survey. Steps are taken to effect improvements in line with the designated action plans.

#### The preferred, long-term solution partner of customers

The Erdemir Group's constantly evolving product range in recent years has paved the way for further growth in the value offered to customers. The Erdemir Group offers thinner and safer steel in grades with higher strength, benefiting both its customers and the environment. The Group creates common profit opportunities by developing itself together with its customers. It also reduces dependence on imports and significantly reduces its customers' raw material costs by developing advanced steel grades at reduced costs.

The Erdemir Group jointly decides on the properties and requirements of the products manufactured from steel through a process of dialogue and close communication established with customers. It goes beyond being a steelmaker by developing customized steel grades and acts as a real solution partner.

This solution partnership put in practice by the Erdemir Group paves the way for a higher market share in sectors such as automotive and white goods, which have high expectations from a quality and technical point of view.



### **Customer satisfaction and loyalty above world and European standards**

According to the results of the Customer Satisfaction Survey conducted by an independent research organization in 2016, Erdemir's satisfaction score was higher than the average both in Turkey and in the world.

According to the regularly conducted survey, Erdemir, which achieved a steady increase in its score between 2010 and 2016, maintained its top position in the sector.

The Erdemir Group unwaveringly maintains its customer-focused work discipline and develops a corporate culture that will keep customer satisfaction at the forefront of its activities.

### **Erdemir: The Most Admired Company of the Year in 2016**

In addition to the quality products and services, Erdemir has an important place and value in the eyes of its

customers with its reliability, agility and knowledge. Erdemir was selected as the leader of the steel industry in the "16<sup>th</sup> Turkey's Most Admired Companies" survey organized by the Capital Magazine in 2016.

The criteria of the award for Turkey's most admired company includes management according to corporate governance principles, employee satisfaction, customer satisfaction, being a reliable company, product or service quality, the social rights and remuneration policy offered to employees and its contribution to the region and the economy through the workforce and investments.

In addition, always aiming to meet the expectations and needs of its customers to the highest level, timely and completely, Erdemir received awards from Tofaş, OYAK Renault and TERMODİNAMİK companies.

**ACCORDING TO THE RESULTS OF THE CUSTOMER SATISFACTION SURVEY IN 2016, ERDEMİR'S SATISFACTION SCORE WAS HIGHER THAN THE AVERAGE BOTH IN TURKEY AND IN THE WORLD.**

## R&D AND INNOVATION MANAGEMENT

### THE ERDEMİR R&D CENTER DEVELOPED PROJECTS IN LINE WITH THE AIM OF BEING AN “ADVANCED STEEL RESEARCH CENTER” DURING THE YEAR AND PRESSED AHEAD WITH ITS INVESTMENTS.



The studies carried out in 2016 by the Erdemir R&D Center, which produces value for Turkey in line with the aim of being “Advanced Steel Research Center”, are summarized below.

#### **Erdemir R&D Center successfully completed 24 projects in 2016.**

The Erdemir R&D Center, which completed its second year of operation in 2016, developed projects in line with the aim of being an “Advanced Steel Research Center” during the year and pressed ahead with its investments.

The Erdemir R&D Center, which is in a pioneering position in the Turkish steel industry, successfully completed a total of 24 projects.

In 2016, the Center contributed to the development of high value-added products based on customer feedback and demands as well as the strategic objectives it had determined. It therefore contributed to the expansion of Erdemir’s product range.

In addition, studies were carried out on waste generated during the production process. Cost reductions were achieved by carrying out improvements in the process, and the process improvements were carried out paved the way for highly competitive products.

In 2016, all studies were tested freely and without incurring high costs independent of production constraints through the Simulators and Pilot plants.

Procurement for the experimental sinter simulator, vacuum induction furnace, hot and cold rolling simulator, hot-dip and coating simulator are ongoing.

With the commissioning of the Pilot Pyrolysis plant in 2016, a first step was taken in the recovery of hazardous wastes.

By supplying additional equipment and test apparatus to the devices in the metal forming laboratory, new capabilities such as identification of earing, hole expanding and surface friction properties of products were attained.

#### **Training activities at the Erdemir R&D Center**

As in the entire Erdemir Group, the Erdemir R&D Center has focused on various training activities, mainly on training offered to researchers.

In 2016, twelve training sessions were held in different technical subjects specific to employees’ needs. Employees were encouraged to continue their doctoral and postgraduate studies.

In 2016, also the employees participated in activities organized in the national/international arena related to the iron and steel sector.



### Patent applications and application related processes

Within the scope of the Patent Registration Procedure published in 2015, five preliminary research reports were prepared regarding Group employees' invention proposals and the evaluation process for three proposals has been completed with the decision of two patents and one utility model applications in 2016. In addition, the application submitted on 8 December 2014 to Turkish Patent and Trademark Office, was awarded a utility model certificate for the invention.

Three of the four projects for which applications were submitted within the scope of the TÜBİTAK (The Scientific and Technological Research Council of Turkey) / TEYDEB (Technology and Innovation Funding Programs Directorate) 1501 Program were found to be eligible for support. The evaluation process for the other project is ongoing.

In the new version of the Autoform software, which is primarily used by main automotive companies and supply industry companies in sheet metal forming simulation studies, material data cards for Erdemir automotive steel grades were prepared, enabling the Company to work with other steel producers. This work paved the way for Erdemir to realize an important first among Turkish steel producers.

Thanks to the Company's metal forming equipment/software infrastructure and know-how, technical support was provided for customers in the automotive and white goods sectors by carrying out solution focused analysis on their sites.

### Ongoing and completed (product) quality improvement activities in 2016

With joint efforts of the R&D and Quality Technology units, in 2016, ten grades of hot steel, three grades of cold products, 3 grades of galvanized products and one grade of tin were offered for sale; and three 3 grades of hot products, one grade of cold product, one grade of galvanized product were completed and prepared for sale. Work on the development of five new grades is ongoing.

In addition;

- The number of flat steel grades offered for sale by Erdemir Group amounted to **447**, while the number of long product grades stood at **268** in **2016**.
- In **2016**, the employees participated in activities organized in the national/international arena related to the iron and steel sector, **9** of which were held abroad, with a total of **22** papers/posters.

**THE EVALUATION PROCESS FOR THREE PROPOSALS HAS BEEN COMPLETED WITH THE DECISION OF TWO PATENTS AND ONE UTILITY MODEL APPLICATIONS IN 2016. IN ADDITION, THE PATENT APPLICATION SUBMITTED FOR ONE PROJECT.**







# FUTURE

**THE ERDEMİR GROUP IS CONSTANTLY IMPROVING ITS ENVIRONMENTAL PERFORMANCE TO PASS A CLEANER AND HABITABLE WORLD ON TO FUTURE GENERATIONS.**



## ENVIRONMENTAL PERFORMANCE

### REDUCING THE ENVIRONMENTAL FOOTPRINT AND MINIMIZING ENVIRONMENTAL IMPACT IN ERDEMİR GROUP

#### ENVIRONMENTAL MANAGEMENT APPROACH

AS THE ERDEMİR GROUP WORKS TOWARDS THE GOAL OF INCREASING PRODUCTION AND PROFITABILITY, IT ENSURES THAT ALL PROCESSES OPERATE WITH AN APPROACH ORIENTED TOWARDS ENVIRONMENTAL PROTECTION IN AN INTEGRATED MANNER.



The unchanging pillars of the Erdemir Group corporate culture are working responsibly for the environment, using existing resources effectively, efficiently and correctly, making use of communication channels for the development and raising awareness of all stakeholders, and continually improving environmental performance to leave a cleaner and habitable world for future generations.

Having introduced a proactive approach to environmental management by following a comprehensive environmental policy, the Erdemir Group aims to increase the efficiency of resource utilization, reduce waste and to act by taking into account of recycling at every stage of the operational cycle in particular, and to protect and improve its human capital.

As the Erdemir Group works towards the goal of increasing production and profitability, it ensures that all processes operate with an approach oriented towards environmental protection in an integrated manner.

Continuing to invest in eco-friendly technologies, the Erdemir Group works to release the minimum amount of waste into the soil, air and water, to ensure raw material resource efficiency and commission projects focused on recycling.

The Erdemir Group carries out all its processes from end-to-end in accordance with an understanding that is fully compliant with laws and legislations, that is responsible, transparent and accountable, and which adds value to its stakeholders. The Group regards these criteria as

indispensable building blocks on the way to sustainable development and success.

**Erdemir and İsdemir Management Systems Policy**

Erdemir Group, which adds considerable value to the national economy, produces steel products in compliance with national & international standards.

We maintain all our activities with transparency, in accordance with the international standards and legal rules and with great sensitivity of the stakeholders' requirement and expectations.

Our Occupational Health and Safety, Quality, Environment, Energy and Information Security Management Systems policy is based on management by objectives, creating resources for our objectives, continuous improvement and increasing awareness of our employees.

**The principles of our policy are as follows:**

Occupational Health and Safety (OHS)

- Producing "Accident-Free Steel" by implementing Risk Management,
- Providing a safe working environment and protecting the health of our employees,
- Increasing the awareness of our employees in accordance with sustainable safety culture.

**Quality**

- Disseminating customer-focus throughout the Company with effective communication,
- Establishing innovative and creative corporate culture,
- Increasing our profitability by projects and improvements in which increasing our productivity and saving cost.

**Environment**

- To carry out technical, economic and commercial evaluations and apply technologies that ensure the lowest environmental waste emissions and to protect our natural resources with the effective and efficient use of raw materials,
- To monitor, assess and continuously improve the environmental impact of our processes in order to continuously improve our environmental performance,
- To reduce waste at its source, improve and encourage recycling, to collect and dispose of waste,
- To inform and to raise awareness among all of our social stakeholders, including our employees, customers, suppliers and the society and the state in which we live, about Erdemir's environmental viewpoint, practices and outcomes that it achieves and to establish an open communication.

**THE ERDEMİR GROUP MAINTAINS ALL ITS ACTIVITIES WITH TRANSPARENCY, IN ACCORDANCE WITH THE LEGAL RULES AND WITH GREAT SENSITIVITY OF THE STAKEHOLDERS' REQUIREMENT AND EXPECTATIONS.**





## ENVIRONMENTAL MANAGEMENT APPROACH

**THE ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM POLICY IMPLEMENTED BY THE ERDEMİR GROUP, IS BASED ON RAISING AWARENESS OF ALL EMPLOYEES AND EFFECTING IMPROVEMENTS BY ALLOCATING APPROPRIATE RESOURCES FOR THE TARGETS.**

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**Energy**

- Implementing technological innovations that provide superior energy efficiency,
- Taking the utmost benefit from by-product gases and waste heat,
- Minimizing the energy losses by systematic measurement and monitoring.

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**Information Security**

- Ensuring that all employees are aware of the value of corporate information which is produced, processed and disseminated internally,
- Identifying the corporate information assets and platforms that information is processed, managing the risks systematically and taking the necessary precautions regarding security vulnerabilities,
- Respecting information security requirements of our stakeholders that we have information give-and-take and ensuring that their information are under security.

As Erdemir Group, we will reflect these principles in our behaviors and ways of doing business.

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**The Erdemir Group Environmental Management System**

The ISO 14001 Environmental Management System policy implemented by the Erdemir Group, which has the ISO 14001 Environmental Management System Certificate, is based on raising awareness of all employees and effecting improvements by providing appropriate resources for the targets.

The criteria that the Erdemir Group has committed itself to this issue in the Environmental Policy are as follows:

- Employ technologies which are in line with sustainable development approaches and which, having considered the technical, economic and commercial aspects, release the least amounts of waste into the environment and conserve natural resources through the effective and efficient use of raw materials.
- Monitor, assess and constantly improve the environmental impact of processes in order to constantly increase the Group's environmental performance.
- Reduce waste at its source, develop and encourage waste recovery and properly collect and dispose of waste.
- Inform, raise awareness and clearly communicate to the Group's employees, customers, suppliers, community, state authorities and all other social stakeholders the Erdemir Group's environmental attitudes and practices as well as the results that it achieves.

The Erdemir Group believes that quality production is only possible with efficiency, effectiveness, recovery, recycling, zero accidents, environmental awareness and savings.

The Erdemir Group informs its employees of its environmental approach through the management systems policy so that all employees fully adopt the environmental approach.



### Environmental Management Process

Erdemir improved the Environmental Management Process approach, which includes the Environmental Management System, in line with the philosophy of sustainable progress and sustainable development. Starting with the feasibility reports of the investment and equipment to be realized in the plant, the Environmental Management Process continues throughout the lifespan of the plant which complies with the environmental legislation and whose environmental impact is kept to the minimum level. The process ends when the plant, whose operational life expires, is decommissioned in accordance with the Environmental Legislation.

The effectiveness and success of the Environmental Management Process is monitored and evaluated by the Process Management Team, which is formed by the relevant departments in the coordination of Environmental Management Units. When a decision is reached on the issues, the results are explored and evaluated. The Process Management Team plays an important

role in the implementation of the designated improvement activities and projects.

The Environmental Performance Index, which is calculated in accordance with the realization rates of the targets gathered under three basic parameters including the Permit, License Document and Compliance with the Legislation and Achievement Criteria is monitored by the Process Management Team.

In the conduct of environmental management processes, the Erdemir and Isdemir Environment Departments perform their environmental management functions and Chief Sustainability Officer report their company's environmental performance directly to the CEO to senior management. Based on senior management's review and assessment of such reports, environmental concerns that are of importance to the industry are incorporated into company management strategies taking national and international regulatory frameworks into account.

**THE ERDEMİR GROUP INFORMS ITS EMPLOYEES OF ITS ENVIRONMENTAL APPROACH THROUGH THE MANAGEMENT SYSTEMS POLICY SO THAT ALL EMPLOYEES FULLY ADOPT THE ENVIRONMENTAL APPROACH.**

## ENVIRONMENTAL MANAGEMENT PROCESS PERFORMANCE INDICATORS

**THE ERDEMİR GROUP  
“ENVIRONMENTAL  
PERFORMANCE INDEX” MODEL  
HAS WON MANY AWARDS ON  
NATIONAL AND INTERNATIONAL  
PLATFORMS OVER THE YEARS.**

### **A unique management model from Erdemir Group: Environmental Performance Index**

The “Environmental Performance Index” model, which assesses the success and effectiveness of the Environmental Management Process with a single numerical indicator, has won many awards on national and international platforms over the years. This model is an indicator of the success of the environmental management process and also allows comparison of past and present environmental performances.

The components of the Environmental Performance Index consist of the following parameters.

- 1) Permit and License
- 2) Compliance with Environmental Regulations
  - Solid Waste Recovery Rates
  - Water Consumption and Water Recirculation Rate
  - Wastewater Analysis
  - Emission Measurements
  - EIA Reports
- 3) Success Criteria
  - ISO 14001: 2015 EMS Improvement Activities
  - Environmental Investments
  - Training and Social Activities
  - ISO 14001 Environmental Management System

All such criteria are constantly monitored and assessed at both the general and the fine-detail level.

### **Environmental performance assessment management model**

The Erdemir Group Environmental Performance Index is based on the criteria presented below:

- Correctly recognize the environmental impact of production processes and of products and services,

- Show the sustainability of the environmental management system,
- Local, national and international environment-related datas.

In line with this process, the Erdemir and İsdemir Chief Sustainable Officer reports the environmental performance to the upper management by implementing environmental management activities. Following a review undertaken by the upper management, environmental factors that the iron and steel industry are required to prioritize in accordance with the legislation and international developments will be incorporated into the management strategies of the Erdemir Group. Environmental targets may therefore be adopted and are seen as a target by employees.

### **Realization of environmental performance and sustainability targets**

#### **Sustainability of the Permit and License Document**

The İsdemir and Erdemir Environmental Permit and License Document, which was obtained from the Ministry of Environment and Urbanization in 2015 in the fields of Waste Water Discharge, Air Emission, Class 1 Regular Storage, Waste Acceptance Facility and Non-hazardous Waste Recovery, remained valid in 2016.

#### **Compliance with Environmental Legislation**

The realizations for waste water analysis, emission values and waste disposal methods and the levels of compliance with legislation and the environmental impact assessment studies of investments are set out in Tables 1 and 2.

Ensuring 100% compliance with environmental legislation and in accordance with the Regulation on Water Pollution Control, pH, temperature, chemical oxygen demand, suspended solid matter, conductivity and dissolved oxygen parameters and emissions, measurements continued to be monitored by the Ministry of Environment and Urbanization with the Continuous Wastewater Monitoring Systems (CWMS) at the wastewater and cooling water discharge points. The samples taken within the scope of internal monitoring by the accredited laboratory at certain periods are analysed and reported to the Provincial Directorate of the Environment and Urbanization. In addition, an analysis is carried out in the facility's environmental laboratory on a daily basis.

Also ensuring 100% compliance with environmental legislation and in accordance with the Regulation on Industrial Air Pollution Control, flue gases from the Erdemir Group facilities continued to be monitored in order to follow up their compliance with the limit values by being connected to the Continuous Emission Measurement Systems (CEMS) of the Ministry of Environment and Urbanization data network. Emission measurements at all flues are carried out by the accredited laboratory every two years.

In line with the greenhouse gases monitoring plans set out by Erdemir and Isdemir, which are approved by the Ministry of Environment and Urbanization, the Group participates in workshops in which mitigation mechanisms are assessed in terms of their suitability to Turkey. Carbon dioxide concentrations (tonnes of CO<sub>2</sub>

per tonne of crude steel), which is the parameter of the Environmental Performance follow-up, is monitored monthly and the reduction target is adopted.

#### Recirculation Water Ratio in the Erdemir Group

Considering the large amount of water used in steel production, the Erdemir Group also carries out work aimed at reusing water resources, such as maximizing the reuse of water during the manufacturing process.

The Erdemir Group, which treats a large proportion of the water it uses, uses the treated water again in its production.

A total volume of 341,238,371 m<sup>3</sup> of water was recirculated in Erdemir during 2016 and 666,854,847 m<sup>3</sup> of water was recirculated in Isdemir in 2016.

\*Recirculation Water Target realization rates are shown in Table 1 and Table 2.

#### Resetting Water Footprint and Reducing Wastewater Discharge

Acting with the awareness that on a global scale, the lack of water in the world is an important risk factor and that the issue of water is at the top of the agenda, in 2016 the Erdemir Group added a new target to its sustainability targets, to reset the water footprint and to reduce wastewater discharges. A road map was created in line with the new target, and work has got underway.

Waste Water Discharge points are compliant with the environmental legislation; however, in order to expand the data analysis intervals to minimize the environmental impacts at

**THE TOTAL AMOUNT OF WATER RECIRCULATED IN 2016 WAS RECORDED AS 341.238.371 M<sup>3</sup> IN ERDEMİR AND 666.854.847 M<sup>3</sup> IN İSDEMİR.**



## ENVIRONMENTAL MANAGEMENT PROCESS PERFORMANCE INDICATORS

**WITH THE USE OF 429,641 TONS WASTE IN ERDEMİR SINTER PLANT AND 356,888 TONS WASTE IN İSDEMİR SINTER PLANT, 176,303 TONS RAW MATERIAL WAS SAVED IN ERDEMİR AND 204,709 TON RAW MATERIAL WAS SAVED IN İSDEMİR.**



these points and to plan investments if improvements are necessary, the Continuous Wastewater Monitoring System (CWMS) at the discharge point of the Chemical Wastewater Treatment Plant, which had established in previous years, was revised in 2016. Accordingly, new Continuous Wastewater Monitoring Systems were installed at the cooling water outlets from the No. 1 Blast Furnace, the No. 2 Blast Furnace and the Power Plant.

**Solid Waste Recovery:** Creating economic value and saving natural resources by recovering all waste produced during the production process.

The Erdemir Group carries out various activities aimed at reducing the production of waste to the minimum level and to increase waste recovery to the maximum level. Non-recyclable waste is sent to authorize contractors within the framework of laws and regulations.

Within the scope of complying with environmental legislation, a solid waste recycling rate of 57.7% was achieved at İsdemir and 72.3% at Erdemir by sending minor and hazardous wastes for recycling and to the companies that produce alternative fuels from solid waste, as well as making use of the wastes produced from the manufacturing processes as raw materials.

\* For the Solid Waste Recovery target realization rates please refer to Table 1 and Table 2.

With the use of 429,641 tons waste in Erdemir Sinter Plant and 356,888 tons waste in İsdemir Sinter Plant, 176,303 tons raw material was saved in Erdemir

and 204,709 ton raw material was saved in İsdemir.

In line with the objective of creating economic value and saving natural resources by recovering all the waste generated during the production process, in 2016, it was made possible to classify wastes as the by-product category or to use them as an alternative raw material in other industries.

Examples from these studies are summarized below.

#### **Studies for Recycling and Making Use of Steel Mill Slag**

##### **The use of Steel mill Slag in the Cement Sector**

As a result of the research studies and testing activities carried out together with the Cement Plant, steps were taken in 2016 to ensure that steel mill slag released during the steel production process was used as an alternative raw material in the cement sector, in what was a first in Turkey.

##### **The Erdemir and İsdemir Steel mill Slag Aggregate Conformity Documents**

Conformity documents were obtained after applications were submitted to the TSE (Turkish Standards Institute) for use in;

- Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction,
- Aggregates used in bituminous mixtures for roads, airports and other areas open to traffic and surface applications,
- Concrete aggregates



**Iron Oxide**

At Erdemir, a certificate of conformity to the Iron Oxide Pigments standard was obtained to include red iron oxide, which is revealed from the Cold Rolling Mill Pickling Process and in the waste class, in the by-product category.

**The Glass and Paper Waste Bin Distribution and Collection Project**

In order to reduce waste at its source and improve and encourage recycling, the “Glass and Paper Waste Bin Distribution and Collection Project” was launched as a pilot project within Erdemir in 2016.

A total of 145 kg glass, 511 kg A4 paper and 307 kg magazine-book were collected through the Project, in which recycling boxes were delivered to six pilot units, thus, significant contribution was made to waste efficiency.

**The Success Criteria Objectives Monitored within the Scope of the Environmental Performance Index**

**Sustainability of the TS EN ISO 14001:2015 Certificate**

**Erdemir Group’s efforts to attain the ISO 14001: 2015 Environmental Management Standard in 2016**

Both Erdemir and Isdemir have been awarded ISO 14001 Environmental Management System certification, which covers not only all of the companies’ production facilities and units but also their training centers, employee housing, beaches, guesthouses, canteens and other social facilities. Efforts are likewise made to review and improve ISO 14001 performance in order to ensure the continuity of the environmental management system. Every year this

system is examined by the Turkish Standards Institution in order to check its continuity. The ISO 14001 systems of both Erdemir and Isdemir successfully passed their 2016 examinations; action was also taken last year to make improvements and revisions deemed to be necessary to ensure documentation continuity.

- With regard to Erdemir’s Environmental Management System, its scope, its context, interested parties and their needs / expectations, internal and external issues, risks and opportunities were identified.
- In addition to the training on the ISO 14001: 2015 Environmental Management Standard for unit environmental representatives and internal auditors of the Environmental Management System, Integrated Internal Auditor training was provided.
- The Environmental Aspect and Impact Assessment studies created for the processes were reviewed by taking into account the requirements of the ISO 14001: 2015 standard. The studies were revised from a life cycle perspective and risks and opportunities were included.

**Amounts of waste brought back into the economy by sending it for recycling at Erdemir and Isdemir in 2016**

| Type of Waste                  | Waste Amount (tons/year) |         |
|--------------------------------|--------------------------|---------|
|                                | Erdemir                  | Isdemir |
| Plastic Waste                  | 40                       | 107     |
| Wood Waste                     | 39                       | 2,000   |
| Paper Waste                    | 63                       | 81      |
| Conveyor Belts                 | 225                      | 788     |
| Electronic Waste               | 30                       | 72      |
| Slide Plate / Refractory Brick | 373                      | 1.5     |
| Mixed Metal Waste              | 92                       | -       |
| Waste Cable                    | 143                      | 74      |
| Glass                          | -                        | 17.3    |

**A TOTAL OF 145 KG GLASS, 511 KG A4 PAPER AND 307 KG MAGAZINE-BOOK WERE COLLECTED THROUGH THE “GLASS AND PAPER WASTE BIN DISTRIBUTION AND COLLECTION PROJECT” AND SIGNIFICANT CONTRIBUTION WAS MADE TO WASTE EFFICIENCY.**

## ENVIRONMENTAL INVESTMENTS IN 2016

### WITHIN THE EMPTYING DUST FROM THE DUST COLLECTION SYSTEMS AND THE RENEWAL OF DUST COLLECTION SYSTEMS IN THE BLAST FURNACE PRODUCTION PROCESS, NINE ENVIRONMENTAL INVESTMENTS WERE REALIZED AT İSDEMİR.



Erdemir Modernization of Sinter Plant Raw Material Dust Collection System



Erdemir Cold Rolling Mill Chromium Reduction Facility Capacity Increase

Erdemir Group has been stepping up its implementation of environmental projects as part of the modernization process in line with its targets of increasing its environmental performance. These investments demonstrate the importance it attaches to this issue.

Some of the environmental investment projects completed at Erdemir and İsdemir in 2016 are as follows.

#### Major environmental investments completed at Erdemir

##### Modernization of Sinter Plant Raw Material Dust Collection System

As part of work to improve the Sinter Plant Raw Material Dust Collection System, the hoods and suction air pipes were improved, two compartments were added and the fan capacity was increased to 650,000 m<sup>3</sup> / hour.

##### Cold Rolling Mill Chromium Reduction Facility Capacity Increase

The addition of ponds was carried out to increase the retention times in the pools and to improve the reduction performance by reducing the wastewater Cr+6 to Cr+3.

#### Major environmental investments completed at İsdemir

Nine environmental investments were realized at İsdemir, including in the transport of the raw material conveyor belt to minimize the dust emissions generated during the production, raw material handling, unloading and

loading activities, in emptying dust from the dust collection systems and the renewal of dust collection systems in the blast furnace production process.



İsdemir Extension of the Scale Crushing Plant



İsdemir Renewal of the Dust Collection System for the Blast Furnaces Desulfurization Plant



İsdemir Blast Furnace Front Dust Collection Pneumatic Pipeline

Erdemir Grubu yatırımları hakkında detaylı bilgi için lütfen bkz.: Erdemir Grubu 2016 Faaliyet Raporu, sayfa 42-45.

<https://www.erdemirgrubu.com.tr/sites/1/upload/files/ERDEMİR-06-TR-2131.PDF>

### Internal and External Environmental Awareness Training in 2016

#### The Erdemir Group's environmental and awareness trainings continue.

In 2016, the Erdemir Group continued to provide its employees with training on the Group's environmental approach and environmental impacts.

In Erdemir;

- Within the scope of Environmental Awareness Activities, a total of 775 blue-collar employees were provided with full day environmental awareness training on issues such as major industrial accidents, global warming, waste management, the importance of recycling and Erdemir Environmental Management System. Besides, a total of 55 newly recruited blue and white-collar employees and 697 sub-contractor employees were provided with ISO 14001 Environmental Management System and environmental awareness training.

In İsdemir;

- Sharing meetings were held to discuss environmental activities with participation of white and blue-collar personnel in the main operation units.
- A training program to raise environmental awareness were given to 544 people; training program on legal terms and ISO 14001 EMS was given to 4,273 people; and ISO 14001 awareness training was given to 737 people.

Additionally;

- 106 Erdemir and 115 İsdemir employees were provided with general awareness training on Hazardous Material Safety Consultancy,
- 228 Erdemir and 157 İsdemir employees were provided with job specific training,
- 51 Erdemir employees were provided with loading safety and 96 İsdemir employees were provided with safety training.
- Training programs given within the scope of the ADR treaty (European Agreement concerning the International Carriage of Dangerous Goods by Road), 110 employees participated in awareness training, 93 employees participated in job specific training and 81 employees participated in safety training.
- Erdemir organized environmental awareness training sessions on the importance of recycling and the effects of waste on nature to a total of 262 students in the Gazi Primary School, the Nurdan and Ahmet Orhan Oğuz Primary School and the Erdemir Nursery.

**WITHIN THE SCOPE OF ENVIRONMENTAL AWARENESS ACTIVITIES, A TOTAL OF 775 EMPLOYEES WERE PROVIDED TRAINING IN ERDEMİR AND A TRAINING PROGRAM TO RAISE ENVIRONMENTAL AWARENESS WERE GIVEN TO 544 EMPLOYEES IN İSDEMİR.**



## ENVIRONMENTAL INVESTMENTS IN 2016

ERDEMİR VE İSDEMİR ARE CONSTANTLY DEVELOPING ON COMPLIANCE WITH ENVIRONMENTAL REGULATIONS.



Table 1 -Erdemir Environmental Performance Index in 2016

| Criteria  | 2014 Realized (%) | 2015 Realized (%) | 2016 Realized (%) | Targets in 2016 (%) |
|---|-------------------|-------------------|-------------------|---------------------|
| Compliance with Environmental Regulations                       | 100               | 100               | 100               | 100                 |
| Rate of Recirculated Water Use                                  | 92                | 91.6              | 92                | 91                  |
| Solid Waste Recovery Rate                                       | 79.3              | 72.1              | 72.3              | 76.6                |
| <b>Maintaining ISO 14001:2015 Environment Management System</b> |                   |                   |                   |                     |
| The Actual Realization of Targeted Environmental Investments    | 100               | 100               | 100               | 100                 |
| Sustainability of ISO 14001:2015 Certification                  | 100               | 100               | 100               | 100                 |

Table 2- İsdemir Environmental Performance Index in 2016

| Criteria  | 2014 Realized (%) | 2015 Realized (%) | 2016 Realized (%) | Targets in 2016 (%) |
|---|-------------------|-------------------|-------------------|---------------------|
| Compliance with Environmental Regulations                       | 100               | 100               | 100               | 100                 |
| Rate of Recirculated Water Use                                  | 93                | 95.5              | 95                | 94.5                |
| Solid Waste Recovery Rate                                       | 75                | 57.2              | 57.7              | 56                  |
| <b>Maintaining ISO 14001:2015 Environment Management System</b> |                   |                   |                   |                     |
| The Actual Realization of Targeted Environmental Investments    | 100               | 100               | 100               | 100                 |
| Sustainability of ISO 14001:2015 Certification                  | 100               | 100               | 100               | 100                 |

### Life Cycle Assessment (LCA)

Erdemir adopted the LCA perspective in order to examine the environmental impacts of its products and processes, combat climate change and ensure efficient use of natural resources.

The Group conducted the Life Cycle Assessment study in 2015 under the guidance of the World Steel Association Life Cycle Specialist Team. In the conduct of LCA consideration has begun to be given to such environmental-impact issues as; raw material use and recovery rates, water consumption and water emission levels, CO<sub>2</sub> and particulate matter (PM10-2.5) emissions, waste generation, recovery and disposal amounts, primary energy demand and energy consumption, global warming potential (CO<sub>2</sub>, CH<sub>4</sub>), acidification potential (SO<sub>2</sub>, NO<sub>x</sub>), eutrophication potential (NO<sub>x</sub>).

The work carried out in coordination with the Worldsteel in 2015 demonstrated the process that enables harmonization and management of all stages of a product life cycle, while supporting the product development process and assisting innovative studies.

For this purpose, in 2016, within the Erdemir Group, the LCA Working Group was established to examine the environmental impacts of its products and processes, to offer products fully tailored to meet the needs of customers and to use all information garnered during the lifespan of the products on the product environment label.

The aim of the LCA Working Group is to determine the efficiencies of the iron and steel production processes, to create the product environmental label, to provide the necessary project information in order to reduce the impacts of the processes, and to ensure improvements in costs and emissions by reducing raw material and energy consumptions through R&D studies.

Erdemir believes that all of these assessments are the responsibilities of industrial organizations for a sustainable future.

### ADOPTED THE LCA PERSPECTIVE WITHIN THE ERDEMİR GROUP, THE LCA WORKING GROUP WAS ESTABLISHED.





## CLIMATE CHANGE AND ENERGY MANAGEMENT

### THE ERDEMİR GROUP IS RAISING ITS AWARENESS ON CLIMATE CHANGE AND CONTRIBUTING TO THE PROCESS THROUGH THE STEPS IT TAKES TO ADDRESS THIS ISSUE.



The most important event held recently as part of the efforts to tackle Climate Change was the UN Climate Change Conference organized in Paris in December 2015. During the Conference, which was seen as a new and valuable step in tackling climate change, a total of 195 countries reached agreement in the decision to limit global warming to 2 degrees. This historical decision marked a milestone towards achieving a sustainable future. It is expected to provide opportunities to accelerate the transition to a low-carbon economy in the world, particularly in developed economies.

In parallel with this, many global companies are actively responding to the threat of climate change and aim to increase their competitive advantage by placing efforts to tackle climate change on the agenda of their activities.

The Erdemir Group is raising its awareness on climate change and contributing to the process through the steps it takes to address this issue. Erdemir takes into account of all the raw materials with C (carbon) content and fuel that it uses when calculating CO<sub>2</sub> amounts. The carbon dioxide concentration (tons of CO<sub>2</sub> / ton of crude steel), which is the parameter of the Environmental Performance monitoring, is monitored on a monthly basis and CO<sub>2</sub> reduction is adopted as the target.

With the project to be invested in, Erdemir and İsdemir analyze CO<sub>2</sub> emissions associated with the project. In addition to all national and international developments on climate change, the Sustainability Directorate reports directly to the Chairman Erdemir Group's CO<sub>2</sub> emissions and the reduction in CO<sub>2</sub> emissions achieved through energy efficiency.

- Within the objective of preparing the CO<sub>2</sub> inventory of Erdemir and İsdemir and determining reduction technologies, the Erdemir and İsdemir greenhouse gas monitoring plans were submitted to the Ministry of Environment and Urbanization in 2016.
- In line with the objective of monitoring international climate change developments and ensuring their integration into the Group's plans, the Group ensured participation in all workshops carried out by the Ministry of Environment and Urbanization within the scope of the Emission Trading System (ETS) and the Market-Based Mechanisms Partnership for Market Readiness for Carbon Markets (PMR) Turkey Project, and Group's opinions about the market mechanisms were shared in these workshops.

### Energy usage saving activities within Erdemir and İsdemir

As one of the sector's leading integrated steel producers, Erdemir and İsdemir conduct planned work on energy usage saving.

Energy is also an important input for both companies. In this vein, technological developments that increase energy efficiency are closely monitored and those innovative applications considered beneficial are adapted. Projects are developed to reduce energy losses and maximize the use of by-product gases and waste heat.

In the operation cycle, the generated by-product fuels are used instead of main energy resources.

### As holders of the ISO 50001 Energy Management System, Erdemir and İsdemir are continually raising their energy performance.

Erdemir and İsdemir are successful companies in terms of specific energy consumption in the iron and steel industry. The amount of energy consumed per ton of crude steel in the companies is monitored, and energy targets become specific energy consumption parameters.

Erdemir and İsdemir have been developing their energy performances with each passing year.

**During the course of 2016, a total of 112,368,884 kWh of energy savings were obtained at Erdemir, with a corresponding reduction of 64,820 tons of CO<sub>2</sub> emissions during the year.**

**During the course of 2016, a total of 739,693,242 kWh of energy savings were obtained at İsdemir, with a corresponding reduction of 404,242 tons of CO<sub>2</sub> emissions during the year.**

### Energy Management Process at Erdemir

Erdemir and İsdemir, which manufacture products in compliance with national and international standards in the iron and steel industry, are increasing their contribution to the Turkish economy.

Erdemir and İsdemir carry out intensive energy and environmental activities due to their area of operation. As a result of the importance attached to this issue, Erdemir shares the policies and targets that it has determined with its short and long-term strategies with its employees and allows them to be disseminated throughout the organization.

Energy efficiency activities are carried out through the "Energy Management Process" in order to maximize energy efficiency. Within the scope of the

process, the TS EN ISO 50001 Energy Management System Certified Erdemir Group carries out the following;

- Monthly targets are set for energy used throughout the Company, targets are followed up on a daily basis and actual usage is examined monthly.
- The energy management system is reported to the top management at certain periods, and the targets and strategies are determined.
- Energy projections are drawn up for the future.
- Identifying of areas open for improvement and examination studies are carried out.
- Following the examination studies, important studies, which are considered to be necessary, become a project.

In addition, projects within the framework of the "Energy Review and Master Energy Plan" are monitored and systematically observed and implemented in accordance with laws and regulations.

The Energy Management Unit, which operates at Erdemir within the framework of Law No. 5627 on Energy Efficiency, coordinates the internal energy management activities.

## AWARDS WON BY ERDEMİR AND İSDEMİR

**İSDEMİR WON THE FIRST PRIZE IN SENVER COMPETITION IN THE SEVAP-3 CATEGORY ORGANIZED BY THE MINISTRY OF ENERGY AND NATURAL RESOURCES.**



Some of the awards won as a result of environmental, energy and OHS projects implemented at Erdemir and İsdemir are as follows.

**2013** - Istanbul Chamber of Industry (ISO) – “Environment and Energy Awards” competition - 3<sup>rd</sup> prize

**2015** - The Ministry of Science, Industry and Technology - Efficiency Project Awards Competition-“The Project of Increasing Steel Mill Gas Production

and Consumption” - Large-scale enterprise, sustainable production category - Erdemir, 2<sup>nd</sup> prize among 193 projects

**2016** - The Ministry of Energy and Natural Resources - “Energy Efficiency in the Industry Project” (SEVAP-3) category – İsdemir, 1<sup>st</sup> prize



### **Collaborations and activities attended in environmental areas**

Within the framework of the “Project to Determine Cleaner Production Techniques and Applicability in the Industry” (SANTEM) carried out by TÜBİTAK and the Ministry of Environment and Urbanization, a pilot facility undertook the task at İsdemir.

“How existing best techniques could be applied” in the iron and steel production processes at the İsdemir site will be investigated jointly with the TÜBİTAK team. Sectoral regulatory impact analysis will be carried out by means of utilizing the results obtained. Incentive and financing models will be developed and a management plan report will be published.

The Company attended activities carried out to improve the calculation methods for greenhouse gas emissions of iron and steel, calculated annually by The Turkish Statistical Institute (TURKSTAT) in reports submitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) within the framework of the Technical Assistance Project for Supporting the Mechanism of Monitoring Greenhouse Gas Emissions of Turkey (TASK GHG Project), which is carried out in partnership with the European Union and the Ministry of Environment and Urbanization.

**WITHIN THE FRAMEWORK OF THE “PROJECT TO DETERMINE CLEANER PRODUCTION TECHNIQUES AND APPLICABILITY IN THE INDUSTRY” (SANTEM) CARRIED OUT BY TÜBİTAK AND THE MINISTRY OF ENVIRONMENT AND URBANIZATION, A PILOT FACILITY UNDERTOOK THE TASK AT İSDEMİR.**

## BIODIVERSITY

ERDEMİR LAUNCHED A PROJECT IN 2016 AIMED AT PROMOTING OTTOMAN STRAWBERRY CULTIVATION, HAVING CARRIED OUT FIELD RESEARCH AND FEASIBILITY STUDIES INTO THIS AREA IN 2015.



Biodiversity, defined as the diversity of species, genes and ecosystems living on Earth, is one of the most important branches of sustainability and serves as life insurance for humanity.

Biodiversity, which has grown in importance especially in recent years, is high on the agenda of companies with large production volumes and which operate in the global economy.

The Erdemir Group examines all aspects related to biodiversity in the modernization and new investment projects, which are subjected to the Environmental Impact Assessment Regulation, in detail and takes necessary measures through investments.

Recognizing that wildlife and biodiversity are evidence of a healthy environment and acknowledging that it has a responsibility to protect and support both, the Erdemir Group identifies and inventories wildlife and biodiversity assets in the areas where it has operations both to avoid degrading habitats and adversely affecting their flora and fauna and to improve their quality of life.

As our biodiversity priorities and targets; determining plant species unique to local habitats, using the reduction in waste-disposal area achieved through waste recovery and reuse as a measure of biodiversity performance, preventing the impairment of the natural environment and planting trees for carbon-mitigation, a new biodiversity project was launched in 2016.



**AIMS TO INCREASE THE ECONOMIC PROFIT BY INCREASING THE RATE OF PRODUCTION AND REGULATING SUSTAINABLE AGRICULTURAL SERVICES, IS PLANNED TO HAVE A DURATION OF 3 YEARS.**



**In order to protect biodiversity in the region and promote local employment, Erdemir supports Ottoman Strawberry cultivation.**

Erdemir has been expanding its activities aimed at protecting local biodiversity and ecosystems in the environment where it operates.

The Company develops alternative projects aimed at the protection and development of forms of agriculture and plant life in the region.

In this context, Erdemir launched a project in 2016 aimed at promoting Ottoman Strawberry cultivation, having carried out field research and feasibility studies into this area in 2015.

Carrying out activities aimed at social development in Kdz. Ereğli since its establishment, Erdemir has been implementing a social responsibility project to increase Ottoman Strawberry cultivation in Ereğli in order to protect biodiversity in the region and support local employment.

Erdemir undertook a joint project on biodiversity together with the Ereğli District Directorate of the Ministry of Food, Agriculture and Livestock, the Zonguldak-Kdz. Ereğli District National Education Directorate and the Association of widening the reach of the Ottoman Strawberry. Erdemir has addressed this project within the context of corporate social responsibility activities in an effort to prevent low production capacity

and economic losses experienced in Ottoman Strawberry cultivation carried out in Kdz. Ereğli, to investigate, plan and develop new technological production methods and to promote cultivation of the Ottoman Strawberry.

Biodiversity includes the genes in a region, the species that carry these genes, the ecosystems that contain these species and the processes that link them together. The diversity of species, genes and ecosystems must be ensured so that biodiversity can be carried out with a sustainable life cycle. For this purpose, plans were drawn up so that the Ottoman Strawberry, which can only be grown in Ereğli, will be cultivated in a selected area in the same region.

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**BIODIVERSITY**

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**THE 5,000 STRAWBERRY PLANTS REPRODUCED IN LABORATORIES WILL BE PLANTED IN APRIL 2017, HARVEST IS EXPECTED IN 2018.**

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The aim was to reduce input costs by achieving savings in the costs of inputs such as irrigation and fertilization through the transition into modern agriculture technology in the Ottoman Strawberry cultivation, which is a product identified with Kdz. Ereğli in the Black Sea region and distinguished from the other strawberry species with its color, smell and taste. At the same time, the project, which aims to increase the economic profit by increasing the rate of production and regulating sustainable agricultural services, is planned to have a duration of 3 years.

This project is aimed at the following:

- To perform efficient and cost effective production with modern techniques in the pilot region by cultivating high quality Ottoman Strawberry plants,
- To inform and offer encouragement to farmers in the Kdz. Ereğli Black sea region about how to cultivate the Ottoman Strawberry with modern techniques,
- To increase the number of plants in order to spread the production,
- To increase the production of Ottoman strawberries and the reach of their cultivation in the region, and thus contribute to employment and protect the future of the Ottoman Strawberry.

At the end of 2016, a protocol was signed with the project partners with whom cooperation will be entered into on the project's academic and technical issues. Within the scope of priority work, the strawberry plants were sent to Antalya for reproduction in culture laboratories. The land where planting activities were to be carried out, in the Kdz. Ereğli Kocaali Neighborhood in the Black Sea Region, that offers suitable climatic conditions, was prepared for cultivation through the realized soil remediation.

The 5,000 strawberry plants reproduced in laboratories will be planted in April 2017. In this context, priority will be given to cultivating and reproducing quality plants and the fruit harvest is expected in 2018.

Another important pillar of the project will be activities aimed at raising education and awareness. Renovation and maintenance activities will be carried out in order to ensure the building located on the land allocated within this scope is suitable for education and training activities. Educational content supported with visual materials and modern techniques will be created and farmers in the region will be informed about cultivation of the Ottoman Strawberry.

The project is expected to provide an important contribution to the Kdz. Ereğli province in the Black Sea Region, where the Erdemir facilities are located, to Turkey, to the Erdemir Group and to future generations in the direction of interests in a common denominator, in addition to the survival and sustainability of the Ottoman Strawberry, which is a fruit endemic to the region but which has been declining gradually in recent years.

#### **Forestry activities**

The Erdemir Group carries out its activities as part of its activity cycle, while at the same time carrying out projects aimed at reducing the direct and indirect environmental impacts arising from its activities to a minimum level and contributing to efforts to cut carbon emissions.

The Erdemir Group is carrying out studies on the protection of existing areas by increasing the area of forest and woodland, which are the most important areas of absorption where carbon is stored.

In order to achieve the goals of improvement and conservation, the possibility that the areas allocated for afforestation could be used for another purpose is taken into consideration before carrying out afforestation work on the land, and the land structure and soil characteristics are also determined.

The afforestation activities are carried out in cooperation with the forestry faculties of universities, as well as with many authorized and specialized companies. Soil analysis tests are carried out through these studies and trees suitable for planting are identified according to the seasonal and climatic conditions following the completion of scientific studies.

In addition, every kind of detail from the dimensions of the trees to be planted to the planting spacing is taken into consideration in the steps to be followed in the planting process. The trees are finally planted in the ground after once this work is completed.

In 2016, a total of 19,659 trees were planted at Erdemir Group.

#### **Other activities carried out...**

The rehabilitation activities of mines belonging to the Erdemir Group starts simultaneously with the quarry production plans in compliance with the legislation, and this work continues before and during production. Upon the completion of the activities, natural areas are left in a manner compliant with the targets and the legislation.

**IN 2016, A TOTAL OF 19,659 TREES WERE PLANTED AT ERDEMİR GROUP.**



# CHANGE

THE ERDEMİR GROUP CLOSELY FOLLOWS UP TRENDS ON A LOCAL LEVEL AND IN THE INTERNATIONAL ARENA. IT DIFFERENTIATES ITSELF IN A CHANGING WORLD AMID RAPIDLY GROWING COMPETITION.









## SOCIAL PERFORMANCE

### HUMAN RESOURCES

ACTING WITH A CONVICTION THAT ITS EMPLOYEES ARE ITS MOST IMPORTANT SOURCE OF VALUE, THE ERDEMİR GROUP ADOPTS A CULTURE OF “BEING US” AS THE BASIS OF ITS APPROACH TO HUMAN RESOURCES.



#### Human Resources Policy

Acting with a conviction that its employees are its most important source of value, the Erdemir Group adopts a culture of “being us” as the basis of its approach to human resources. It takes into account the needs and expectations of its employees in order to establish and maintain this culture and attaches importance to shaping working conditions in this direction.

The Group works to increase employee commitment, support employee development and provide career opportunities that provide equal opportunities for all in its

Human Resource practices. With responsible, innovative, solution providing employees who create and share knowledge and are open to development and team-oriented, progress in the direction of common goals takes place as part of a big family, which develops and grows with the newly recruited employees. As of the end of 2016, the Erdemir Group employed 12,277 people.

As of the end of 2016, the ratio of female top managers reporting directly to the Chairman of the Board stood at 39% in the sector, while there was a high proportion of male employees at management levels.

### Activities to strengthen the High Performance Culture

One strategy that the Erdemir Group places special priority on is to strengthen its high performance culture. The corporation builds a clear and understandable link between its culture, strategies and targets for all employees. The Group works to ensure that employees are motivated in the right direction are able to maximize their potential and realize improvements by operating feedback mechanisms in an effective manner. According to the survey carried out within the scope of the 2016 year-end performance evaluation, the ratio of the employees who received feedback stood at 89.5%.

The Erdemir Group aims to determine individual targets that are in line with the targets of the Company through the performance management applied to all the employees within the Company and to plan their development according to their needs by measuring the contribution of the employees to the corporate targets.

The Erdemir Group assesses the entire human resource processes in line with a holistic approach. The Erdemir Group fully defines the talent management processes in line with the strategies and the development of the employees is supported with the competence model. In addition to retaining the new and existing human resources in hand, the Group also carries out

development activities in order to unveil the potential of employees through practices such as in-class training, mentoring and learning based on experience.

### Employee Satisfaction Trend

Within the Erdemir Group, employee commitment is determining with systematic measurements and various improvement activities are carrying out based on the results. In the measurements carried out in 2014 and 2015, it was found that the levels of employee commitment among blue-collar workers exceeded the world average and the development plans aimed at improvement areas identified as a result of measurements were defined. In this context, the year 2016 was evaluated as the year of implementation for development actions.

### Interaction with Employees

The Erdemir Group enters dialogue with its employees through different platforms in order to interact with them in certain periods within the context of internal communication activities.

These platforms are as follows:

- Steel Portal
- Informative presentations concerning human resources systems and sharing meetings
- Group Academy Portal
- Employees events
- The Erdemir Group TV
- One to one interviews

### The Erdemir Group Academy

As one of Turkey's biggest employers, The Erdemir Group offers its employees training and development opportunities during their careers from the moment they start working within the Group. The Erdemir Group Academy, which was transformed into a corporate university structure in 2015, offers quality education and development programs in line with the positions of employees, their competencies and the departments, which they work in.

With a total of 71 mentors and 62 mentees, the Erdemir Group also implements an internal mentoring program to contribute to the development of employees and to ensure that the leadership culture is infused with new and potential leaders. In addition, mentoring support is provided through the "Mentoring for Managers in their First 90 Days" to help those employees who hold titles of manager and above, who have been appointed to such positions through the promotion, and recruitment adapt to the Company and their new duties.

### Activities of the Erdemir Group Academy in 2016

Aware that one of the key drivers of being a team demonstrating a high and successful performance is leadership, in 2016 the Erdemir Group continued the Leadership Faculty activities, which it had established in 2015.

## HUMAN RESOURCES

## 82 PEOPLE WERE INCLUDED IN THE DEVELOPMENT PROCESS AT THE MARKETING AND SALES FACULTY IN THE ERDEMİR GROUP ACADEMY IN 2016.

In addition to establishing a common management culture within the Group, the development programs, which are built on each other on a level-by-level basis, were provided at the Faculty, which was established to raise leaders who will help the Group reach its future goals, in 2016. The development follow-up process was monitored with the credit (marking) system and graduation requirements.

Executives attending the program had the opportunity to develop their leadership competencies through a variety of methods. These methods including in-class training, 360 degree evaluation, one to one coaching, follow-up studies and learning from each other.

In addition to the Leadership Faculty, the Erdemir Group Academy began to implement Technical Faculties in 2016 by prioritizing the needs focused on corporate strategies. In 2016, 82 people were included in the development process at the Marketing and Sales Faculty in what was a first step in this context.

### Future leaders are being raised within the Erdemir Group.

While the first year of the Erdemir Group Academy is mainly focused on the design and implementation of managerial development programs, development program designs will be implemented for all employee levels in the coming periods.

In 2016, the Erdemir Group Academy began to support individual development by offering discounts to post graduate and certificate program applications through collaboration with universities.

The Erdemir Group Academy manages the training needs and activities in a manner that will serve the corporate strategies and targets for the Erdemir Group under a single roof. The Academy designed training programs aimed at customers under six training headings in 2016 in order to share the Group's knowledge and experience with its customers. The 2017 training plans were drafted with the aim of meeting the training requests coming from customers.

### Training programs carried out at the Erdemir Group Academy in 2016

| Program Name  | Number of Persons | Training Hour per Person |
|---|-------------------|--------------------------|
| The Leaders of Steel Development Program            | 45                | 75                       |
| The Leaders who Transform Steel Development Program | 132               | 95                       |
| The Leaders who Process Steel Development Program   | 233               | 51                       |
| Personal Coaching                                   | 21                | 6                        |
| Marketing & Sales Development Program               | 82                | 34                       |
| Internal Mentoring Program                          | 71                | 50                       |
| Manager's First 100 Days Program                    | 48                | 12                       |

### **Participation in congresses, summits, conferences, seminars and off-site training**

The Erdemir Group ensures the participation of its employees in national / international conferences, congresses and summits by enabling employees to share their knowledge and experience and to follow up the current topics and activities related to the sector and the activities.

In this context, a total of 443 employees attended congresses, summits, conferences, seminars and off-site training during 2016. Nine oral and poster presentations on Occupational Health and Safety were presented during 2016. İsdemir employees also presented 15 oral and poster presentations in four different congresses.

### **In-House Training System**

In-House Training System is a dynamic training model, which enables the continuous improvement of work styles by sharing knowledge and experience. In this context, a total of 3,158 Erdemir employees and 3,355 İsdemir employees took part in the System.

### **The New Graduate Trainee Program**

In order to support youth employment, a total of 166 new graduate candidates, principally graduates from engineering departments, were employed between 2012 and 2016 under the new graduate recruitment program, which started in 2012 and is organized every year. The recruitment

process is completed with the following steps.

- Telephone interviews,
- English language and general aptitude test applications,
- Personality inventories,
- Competence based interviews, and
- Panel interview steps where the case study is conducted.

When a decision has been taken to recruit a candidate and they have been placed in suitable positions, the development of newly recruited graduate employees is followed through the Orientation and the New Graduate Development Program.

### **Internship programs in Erdemir Group**

Erdemir Group continued to offer internship opportunities within the quotas determined in 2016. Erdemir conducted its 2016 internship program with the brands of Iron Class, Steel Class and Ore Class with an approach oriented to man power needs. The Iron Class Program offered 182 vocational high school students on-the-job in-skill internships. The Steel and Ore Class Programs offered internships to 137 students from the Faculties and Vocational Higher Education Schools in the summer term. In the Ore Internship program, students work on project designs, which they develop with the support of an employee from the organization who is assigned to each student and participate in the development programs prepared for them. This program, which is implemented with the aim of

**IN THIS CONTEXT, A TOTAL OF 3,158 ERDEMİR EMPLOYEES AND 3,355 İSDEMİR EMPLOYEES TOOK PART IN THE SYSTEM.**



## HUMAN RESOURCES

**THE OPEX PROJECTS COMPLETED IN 2016 ARE EXPECTED TO YIELD US\$ 1.12 MILLION IN ANNUAL SAVINGS FOR ERDEMİR AND US\$ 3.5 MILLION IN ANNUAL SAVINGS FOR İSDEMİR.**



demonstrating students' potential and for them to be productive during their internship period, is organized for undergraduate students. At the end of the internship, an assessment is performed by the intern evaluation team with the evaluation matrix and through exams and projects.

On the other hand, 185 vocational high school students received skills training at İsdemir, while 65 vocational higher education school students and 348 university students were provided with summer internships. 11 graduate engineers/specialist interns were provided with internships.

#### Opportunities provided by the Erdemir Group

In the interests of increasing dialogue between employees, enriching their social life and strengthening their loyalty, a whole array of possibilities are offered to employees, including associations, social clubs, accommodation, sports halls, swimming pools and even beaches, which they can enjoy with their families in Kdz. Ereğli and İskenderun.

The other possibilities offered to employees in the Erdemir Group are as follows.

- Through its health centers, the Group provides preventive medicine, periodic examinations, preventive measures against occupational accidents and occupational diseases, emergency intervention and first aid services to its employees.
- It applies private health insurance service and individual pension system to employee groups.

- It supports the employees with paid leave who continue to study in postgraduate program.
- It serves food and transportation for its employees.

#### The key driver of uninterrupted development at the Erdemir Group: Employee participation

Always attaching importance to employee participation, the Erdemir Group views employee participation as a prerequisite in reaching the Group's long-term goal of achieving profitable and sustainable growth.

From knowledge to experience, from new ideas to sharing in the suggestion system, every contribution by our human resources is made use of within the Group. These contributions pave the way for improvements and savings in a wide area including the environment, customer satisfaction, OHS and operational activities.

OPEX Projects implemented to reduce production cost, extend the lifespan of equipment, save energy, optimize use of raw materials and develop product quality also continued in 2016. The OPEX projects completed in 2016 are expected to yield US\$ 1.12 million in annual savings for Erdemir and US\$ 3.5 million in annual savings for İsdemir.

Erdemir and İsdemir continued to provide the following training programs as supported by the Minitab® program to widen the reach of the operational excellence projects.

- Statistical Data Analysis Training (SDA),



- Design of Experiments Training (DOE),
- Statistical Modeling Training for Executives (SMTE),
- Measurement Systems Analysis (MSA)

A total of 42 employees received such training in Erdemir and 73 in Isdemir during 2016.

Within the framework of the suggestion system, during 2016 Erdemir and Isdemir employees offered their support for improvement in many areas such as occupational health and safety, environmental performance, customer satisfaction and energy savings by sharing their ideas. In 2016, Erdemir achieved US\$ 9 million in annual savings from proposals submitted through the proposal systems and whose earnings can be calculated.

Of the total 61,218 proposals, 21,155 were applied in Isdemir. The number of implemented proposals increased by 82% when compared to 2015, with

12.18 proposals per person. Isdemir achieved US\$ 729 thousand in savings during 2016 from those proposals submitted through the proposal systems and whose yields can be calculated.

A total of 213 improvement teams (ERİT) were established in 2016 within the scope of the team work in Erdemir and 118 teams completed their work and shared their results.

Founded within the Erdemir Workshops and Maintenance Directorate, the Coil Winding Improvement Team provided a presentation in the "17<sup>th</sup> Quality Circles Sharing Conference" of the Quality Association of Turkey (KalDer). The Safe Ramp Improvement Team was deemed worthy of the "Golden Glove Award" by the MESS.

In Isdemir, 278 of 1,102 kaizen, which was established in 2016, were completed. This achieved annual savings of US\$ 12.2 million.

**A TOTAL OF 213 IMPROVEMENT TEAMS (ERİT) WERE ESTABLISHED IN 2016 WITHIN THE SCOPE OF THE TEAM WORK IN ERDEMİR PROGRAM AND 118 TEAMS COMPLETED THEIR WORK AND SHARED THEIR RESULTS.**

**Continuous Improvement Target with Training**

| VOCATIONAL, TECHNICAL, COMPULSORY TRAINING / PERSONAL DEVELOPMENT AND MANAGEMENT TRAINING |                   |                      |
|---|-------------------|----------------------|
| Company   | Number of Persons | Total Training Hours |
| Erdemir   | 35,673            | 223,057              |
| Isdemir   | 23,690            | 187,712              |

| Company | New Recruitment Retention Rate (%) |
|---------|------------------------------------|
| Erdemir | 94                                 |
| Isdemir | 87                                 |

For detailed information on Erdemir Group’s human resources, please refer to pages 51-54 of the 2016 Erdemir Group Annual Report.  
<https://www.erdemir.com.tr/Sites/1/upload/files/ERDEMIR-06-ENG-1383.PDF>

## OCCUPATIONAL HEALTH AND SAFETY (OHS)

**IN 2016, IN ERDEMİR, EMPLOYEES RECEIVED A TOTAL OF 148,417 MAN\*HOURS OF OHS TRAINING; SUBCONTRACTOR EMPLOYEES WERE PROVIDED WITH 4,789 MAN\*HOURS OF OHS TRAINING. IN İSDEMİR, THE EMPLOYEES WERE PROVIDED WITH 95,724 MAN\*HOURS OF OHS TRAINING; SUBCONTRACTOR EMPLOYEES RECEIVED 34,013 MAN\*HOURS OF OHS TRAINING.**



The Erdemir Group's OHS policy is informed by the basic principles of:

- Producing "Accident-Free Steel" through risk management,
- Protecting employees' health by making workplaces safe,
- Encouraging employees to identify with a sustainable "safety culture".

Believing that accident-free production is possible, Erdemir Group companies prioritize the health and safety of its guests who visit its facilities as well as its employees through its OHS policy that it has developed, and it integrates the OHS management into all its business processes.

The Erdemir Group implements physical arrangements and improvements in its work areas in line with the objectives set out in the OHS policy. The Erdemir Group, which supports its employees' awareness of OHS issues with periodic training sessions, provides employees with world-class protective materials, which are suitable for the employee's body and work.

Erdemir and İsdemir implement the TS-OHSAS 18001 Occupational Health and Safety Management System requirements. They carry out work to promote the continuity and development of the system and the companies ensure that the documents are updated as a result of the

systematic reviews carried out by the relevant institutions on an annual basis.

### A strong safety culture with the "Producing Safely" project

Within the framework of the "Producing Safely" project implemented by Erdemir and İsdemir, the Companies create a safety culture to promote accident free steel production and encourage the adoption of this culture by all employees.

### OHS training at the Erdemir Group continue without interruption

OHS training is of key importance for establishing a common safety culture in the Group and ensuring its maintenance. The Erdemir Group conducts various training programs to outline the risks, which will arise in line with the characteristics of the work carried out, for its employees as well as employees of sub-contractor employees.

In 2016, in Erdemir, employees received a total of 148,417 man\*hours of OHS training; subcontractor employees were provided with 4,789 man\*hours of OHS training. In İsdemir, the employees were provided with 95,724 man\*hours of OHS training; subcontractor employees received 34,013 man\*hours of OHS training.



### **An ever increasing OHS performance at the Erdemir Group**

The Erdemir Group companies closely monitor and continuously improve the OHS performance through various applications. Some of the applications carried out in this scope by Group companies are as follows:

- the OHS board, committee and subcommittee meetings which are carried out systematically with a wide participation,
- announced and unannounced safety walkabouts,
- near miss applications and
- accident root cause analysis.

In 2016, 138 announced and 89 unannounced safety walkabouts were carried out in Erdemir, at İsdemir, 27 announced and 145 safety walkabouts were carried out. By evaluating the potential hazards and risks identified during the safety tours, a total of 3,916 environmental improvements were made in Erdemir. In İsdemir, 8,302 items were identified with improvement work carried out.

In 2016, the audits in accordance with the 5S system in 582 areas in İsdemir's plants, offices and open areas of the units continued in order to ensure order in the work places by increasing the participation and motivation of employees with occupational safety. Improvements continued to be carried out by following up in line with the 5S system.

The Erdemir Group aims to identify danger notices in the prevention of accidents and situations, which do not affect employees but may cause injury and damage in the event of recurrence, with the accident near miss applications that it actively uses.

In 2016, in Erdemir, improvements were carried out following 2,104 hazard and 130 near miss reports. In İsdemir, 89% of the issues identified for improvement were resolved, by working on 20,943 near miss events during the year.

**THE ERDEMİR GROUP COMPANIES CLOSELY MONITOR AND CONTINUOUSLY IMPROVE THE OHS PERFORMANCE THROUGH VARIOUS APPLICATIONS.**

## OCCUPATIONAL HEALTH AND SAFETY (OHS)

**IN 2016, IN ERDEMİR, IMPROVEMENTS WERE CARRIED OUT FOLLOWING 2,104 HAZARD AND 130 NEAR MISS REPORTS. IN İSDEMİR, 89% OF THE ISSUES IDENTIFIED FOR IMPROVEMENT WERE RESOLVED, BY WORKING ON 20,943 NEAR MISS EVENTS DURING THE YEAR.**

### The "Ten Squared" projects

The "Ten Squared" projects, which started to be implemented in İsdemir in 2015 together with AKUT (Search and Rescue Association), Social Accountability International (SAI), which is the founder of the SA 8000 Social Compliance Standard and the Rapid Results Institute were successfully completed with the established teams within 100 days in 2016.

The aim of the projects is to eliminate a specific occupational health and safety problem and ensure integration between the employee and the manager.

### Activities within the scope of Emergency Management

In line with the "Regulation on the Prevention of Major Industrial Accidents and Mitigation of Impacts", Erdemir and İsdemir delivered the Safety Report (the SEVESO Directive) to the Republic of Turkey Ministry of Labor and Social Security on 29 June 2016. The Company continues to work on the preparation of internal Emergency Plans.

As part of SEVESO activities and as stipulated by the "Regulation on the Protection of Employees from the Hazards of Explosive Atmosphere and the Regulation on the Equipment" and

"Protective Systems Intended for Use In Potentially Explosive Atmosphere", Erdemir and İsdemir prepared explosion protection documents in the areas where there was a risk of explosion, areas where an explosion risk was classified, the anti-explosion characteristics of the equipment used in these areas and their compliance with area classifications were reported.

The training and cooperation protocol was signed between Erdemir and ÇASGEM (Directorate of Labor and Social Security Training and Research Centre), which is a training and research unit affiliated to the Republic of Turkey Ministry of Labor and Social Security, in May 2016. Within the scope of this protocol, "the Report on Prevention of Large Industrial Accident in the Acid Regeneration Process of the Directorate of No. 2 Cold Rolling Mill" was prepared.

In 2016, emergency training, plans and equipment were reviewed at İsdemir. Within the scope of Emergency Management System, one general drill and 84 in-unit drills were carried out with the participation of 57 emergency managers, 475 incident scene managers and the employees working in emergency response teams from the units. In addition, 560 emergency team members received renewal training in the Emergency Training Centre.

**Cooperation with the Worldsteel Safety and Health Committee**

Erdemir and İsdemir, both members of the Worldsteel Safety and Health Committee, organized safety tours in line with the criteria under the headings of moving equipment, falling from heights, falling objects, working in gaseous areas and with cranes. These are the areas were the most dangerous in terms of fatal accidents in the steel industry in 2016, as determined by the Association. The companies prepared improvement plans for the findings identified.

In addition, five of the 94 good practices identified in Erdemir were shared with the Worldsteel.

Erdemir attended the “8<sup>th</sup> International Occupational Health and Safety Conference” organized by the Republic of Turkey Ministry of Labor and Social Security between 8 to 11 May 2016, with 3 oral presentations and 6 poster presentations to represent Erdemir.

**Personal Protective Equipment**

In 2016, the Erdemir Group carried out a wide range of activities including determination of protective equipment, which are to be compliant with world standards and suitable for working conditions, use of such equipment, monitoring such equipment during use and carrying out necessary improvements.

**From reactive measures to proactive results**

Accident Analysis, which is implemented in Erdemir and enables the determination of the Erdemir Standard, sets an example for other companies.

In order to achieve proactive results against reactive measures at Erdemir, the beginning phase of the accidents that occurred is examined in detail on the axis of work, people and the environment. In line with the statistical data gathered results of the examination, measures are identified and work carried out in accordance with the measures.

**OHS Training Table**

| OHS Training | Number of Attendant | Man-Hours | Ratio in Total Training (%) | Average OHS Training Hour per Employee |
|--------------|---------------------|-----------|-----------------------------|--|
| Erdemir      | 5,640               | 148,417   | 47                          | 18.62                                  |
| İsdemir      | 12,976              | 95,724    | 51                          | 18.75                                  |

**ACCIDENT ANALYSIS, WHICH IS IMPLEMENTED IN ERDEMİR AND ENABLES THE DETERMINATION OF THE ERDEMİR STANDARD, SETS AN EXAMPLE FOR OTHER COMPANIES.**



## CORPORATE SOCIAL RESPONSIBILITY

### ERDEMİR AND İSDEMİR FOCUSED ON THREE BASIC CSR PROJECTS SUCH AS; OCCUPATIONAL HEALTH AND SAFETY, BIODIVERSITY, ENVIRONMENT AND EMPLOYMENT AND ART IN 2016.



With an emphasis on fulfilling its responsibilities to its stakeholders in a timely manner, the Erdemir Group builds constructive relations with the society, especially in the regions where it operates, and supports social development with the voluntary contribution activities that it carries out.

Taking into account stakeholder expectations in line with its vision and strategic priorities, the Erdemir Group determines its projects in the field of corporate social responsibility and prioritizes projects, which have a high impact for the long-term.

In 2016, the Group focused on three basic areas.

#### **The Occupational Health and Safety - the "Producing Safely" Project:**

The first steps of a series of research, development and communication activities were taken towards behavior-oriented safety management in order to bring the level of Occupational Health and Safety at Erdemir and İsdemir to the 3<sup>rd</sup> phase in accordance with the Bradley Curve developed by Dupont. In this context, the basic concepts of behavior-oriented occupational health and safety were explained to those responsible for the production process. The Project fieldwork started in 2016, this understanding is planned to be spread

to all employees in 2017 and then in later years to a broader stakeholder group extending to suppliers, contractors and to the families and children of the employees.

#### **Biodiversity – Environment and Employment:**

Erdemir initiated a new project in order to increase the cultivation of the "Ottoman Strawberry" fruit, which is identified with the region in Kdz. Ereğli, where the Erdemir facilities are located, but whose production was wound down in recent years. The project was also intended to contribute to the environment and biodiversity and create new business lines. In this project, Erdemir collaborates with the Kdz. Ereğli District Directorate of the Ministry of Food, Agriculture and Livestock, the Zonguldak Ereğli District National Education Directorate and the Association to promote the Ottoman Strawberry and protect its growers.

Within the scope of the project, in 2016, the strawberry plants were reproduced in culture laboratories and land where planting activities were to be carried out was made suitable for cultivation. In the project, in which priority was given to cultivating and reproducing quality plants, the first fruit harvest is expected to be realized in 2018. The project also envisages a comprehensive training program for farmers in the region.

**Art:** The Erdemir Group aims to emphasize the place of steel, which it is devoted to at all times, in human life through art and contribute to the education of art in Turkey through a sculpture competition under the theme of "Steel and Life" organized by the Erdemir Group for students attending sculpture courses for undergraduate and graduate degrees at universities. Organized for the first time in 2005, Erdemir repeated the competition in 2013 and 2015. Aiming to continue the competition biannually, the Erdemir Group will carry out the 4<sup>th</sup> Steel Competition. The competition has a special place for the Group, as Erdemir steel is used in the majority of the works of art.

Setting out from the principle that a sustainable future is only possible with sustainable steel production, since its establishment the Erdemir Group has shared a proportion of the added value it produces through the work it has carried out, especially in regions where it has been operating, in addition to its long-term projects. The contribution activities carried out at Erdemir and İsdemir in 2016 within this scope are summarized below.

- As in previous years, heating and electricity needs of some educational institutions near the operation sites continued to be met.

- The Group met the sheet metal materials required by various education institutions in Turkey for various undergraduate and graduate studies. The Group provided a number of services such as maintenance, repairs, cleaning and lunch to education institutions in Kdz. Ereğli, İskenderun and Divriği.
- The Group provided financial support for building renovation and landscaping at the Erdemir Adiyaman Vocational and Technical Anatolian High School, where Erdemir undertook the construction of the building.
- Food aid continued to be provided to families in need during Ramadan.
- Financial support was provided to aid campaigns organized to provide housing to the families of fallen soldiers in Kdz. Ereğli. A cash donation was made to the TEIAS engineer who was injured in a terror incident in İskenderun, to meet his cost of the treatment and food aid was provided to the families of fallen soldiers in the Hatay region.
- 10 battery-operated wheelchairs were delivered to the Kdz. Ereğli Association for the Physically Disabled to be distributed to families in need.
- Within the scope of Step-by-Step, that is a collective charity contest, Erdemir donated to those associations for which members of

- the Running Club run to raise funds for. Erdemir donated to Turkish Spinal Cord Injury Association (TOFD), Turkey Alzheimer's Association, the Seed Autism Foundation, the Search and Rescue Association (AKUT), the Mother and Child Education Foundation (AÇEV), Turkey Foundation for Children in Need of Protection (KORUNCUK), the Educational Volunteers Foundation of Turkey (TEGV) and the Tuvana Foundation for Educating Children (TOÇEV). Erdemir also provided a cash donation to the Clean Seas Association (TURMEPA), of which it is member.
- Erdemir and İsdemir, who supported the "Don't Throw it Away. Donate it. Help Vocational Schools Get Stronger", organized by the Association of Automotive Parts and Components Manufacturers (TAYSAD), provided measurement equipment to be delivered to schools.
- Erdemir repeated its children's theatre event, which became a regular activity for the 23<sup>rd</sup> April National Sovereignty and Children's Day, in 2016. The "Water Drop" play, which drew attention to the importance of water, was shown to about 800 children free of charge.

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