



**MINING METALLURGY**  
GROUP

**2018 SUSTAINABILITY REPORT**

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# ABOUT THIS REPORT

## Scope of the Report

This report is the fifth sustainability report published by OYAK Mining Metallurgy Group.

This report, which addresses the 2018 financial and non-financial performance with a holistic approach, sets out the Group's developments in the economic, environmental and social fields, as well as its strategy and future forecasts and targets.

The first three reports covering 2014-2016 were published under the "Erdemir Group" title. As of 2017 Erdemir and its subsidiaries started operating under the roof of OYAK Mining Metallurgy Group.

The sustainability performance criteria covered by this report apply to the 2018 indicators of the Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (Erdemir) and İskenderun Demir ve Çelik A.Ş. (İsdemir).

Financial indicators presented in this report are the data published in the independently audited consolidated financial statements of OYAK Mining Metallurgy Group.

## Reporting Period

Unless otherwise indicated, this report covers the period 1 January - 31 December 2018.

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 publish in future. The previous sustainability report published by the companies was concerned with 2017.

## Reporting Cycle

In principal, OYAK Mining Metallurgy Group publishes reports on an annual basis.

This report has been prepared so as to comply with BIST Sustainability Index, EIRIS Sustainability Criteria, Dow Jones Sustainability Criteria, GRI Standards and similar internationally recognized standards.

The report has not been independently reviewed or audited in any way.

# INTRODUCTION

## CORPORATE PROFILE



**The OYAK Mining Metallurgy Group generates value for the Turkish economy and its stakeholders.**

**Representing more than half a century of industry experience and know-how, the OYAK Mining Metallurgy Group ranked 3<sup>rd</sup> in 2018 in terms crude steel production among the producers of EU member states, 8<sup>th</sup> in Europe and 45<sup>th</sup> in the world.**

Companies within the OYAK Mining Metallurgy Group operate in the fields of

- flat and long steel production,
- steel service center services,
- mining,
- gas production,
- engineering & project management

The foundation of the OYAK Mining Metallurgy Group, one of Turkey's largest industrial groups, goes back to Erdemir's initial production as the country's first integrated flat steel plant in 1965.

The Group, which is the main supplier for Turkish industry, adds value with its products and services to a wide range of sectors including the automotive, energy, construction, pipe, shipbuilding, household appliances, machinery, heat insulators, heavy industry and packaging sectors.

**OYAK MINING METALLURGY GROUP ADDS VALUE WITH ITS PRODUCTS AND SERVICES TO A WIDE RANGE OF SECTORS.**

According to 2018 data, the Group produced 9.145 million tons of crude steel, single-handedly accounting for approximately 25% of Turkey's total production.

In 2018, the Group continued to capture a significant share in exports, with exports of 1.6 million tons of products to 200 different customers in 50 countries.

The sector's first ministry approved R&D center works within the OYAK Mining Metallurgy Group to respond to customer expectations with innovative solutions.

The Group has two ports, one of which is in Ereğli and the other in İskenderun. Both are the largest ports in their regions.

As one of the largest employers in Turkey, the OYAK Mining Metallurgy Group provides employment to 12,000 people and contributes to working life. With the taxes it pays, the Group contributes to public finance and therefore to the Turkish economy.

### **OYAK Mining Metallurgy Group companies are the most valuable companies in Turkey.**

According to Turkey's Top 500 Industrial Enterprises survey conducted by the İstanbul Chamber of Commerce (İSO) in 2018, among Group companies İsdemir was ranked 7<sup>th</sup> in the survey, Erdemir 8<sup>th</sup>, Erdemir Çelik Servis Merkezi 67<sup>th</sup>, while Erdemir Maden was ranked 247<sup>th</sup>.

### **Erdemir and İsdemir shares traded on the Borsa İstanbul.**

Erdemir shares have been traded under the "EREGL" ticker symbol in the stock exchange since the establishment of Borsa İstanbul in 1986. Erdemir, which is listed in the BIST 30 index, has one of the broadest ownerships of any publicly traded company with 47.63% of its shares listed. The majority of Erdemir's shares, which are traded on the Borsa İstanbul, are held by institutional investors.

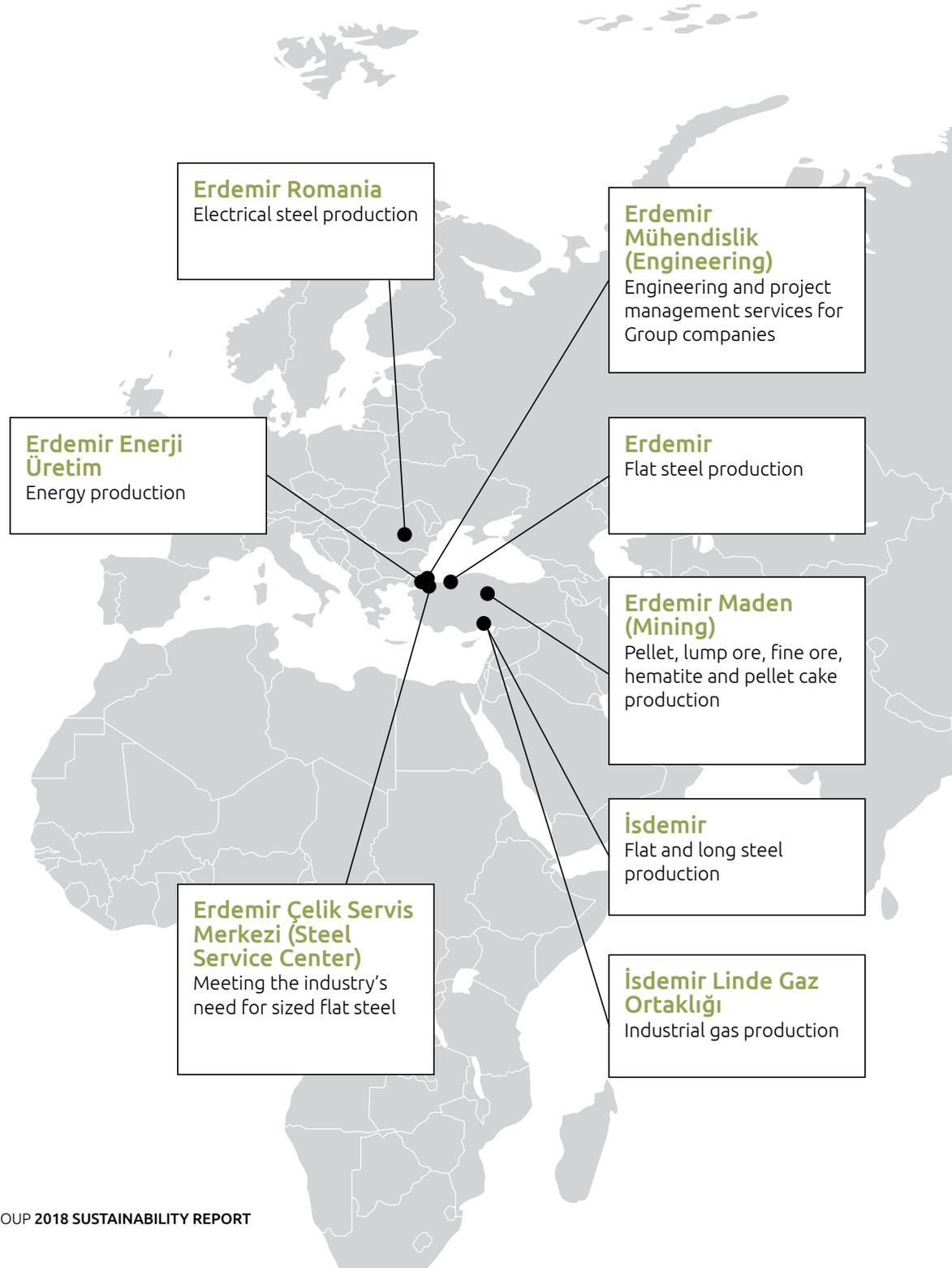
İskenderun Demir ve Çelik A.Ş. (İsdemir) shares have been trading on the Pre-Market Trading Platform of the Borsa İstanbul under the "İSDMR" ticker symbol since 28 March 2016. The Company's shares were listed on the Stars Market with effect on 19 April 2018.

# 25%

THE GROUP SINGLE-HANDEDLY ACCOUNTS FOR APPROXIMATELY 25% OF TURKEY'S CRUDE STEEL PRODUCTION.

**AS ONE OF THE LARGEST EMPLOYERS IN TURKEY, THE OYAK MINING METALLURGY GROUP PROVIDES EMPLOYMENT TO 12,000 PEOPLE AND CONTRIBUTES TO WORKING LIFE.**

**AS A STAKEHOLDER OF THE GLOBAL SYSTEM, OYAK MINING METALLURGY GROUP CONTRIBUTES TO MACROECONOMIC DEVELOPMENT AND RECONSTRUCTION IN ALL ASPECTS WITHIN THE FRAMEWORK OF ITS ENDURING COMMITMENT TO THE GLOBAL ECOSYSTEM AND ITS STAKEHOLDERS.**



# 1.6 MILLION TONS

IN 2018, THE GROUP EXPORTED 1.6 MILLION TONS OF PRODUCTS AND CAPTURED A SIGNIFICANT SHARE.



**Erdemir Asia Pacific  
Pte. Ltd.**

Execution of the Group's  
business activities in the  
Asia-Pacific region

# MAIN SUSTAINABILITY INDICATORS

## ECONOMIC

**Sales Revenue:**  
USD 5,598,000

**Net Profit:**  
USD 1,159,965

**Total Assets:**  
USD 7,942,000

**USD 7.9 MILLION**

OYAK MINING METALLURGY GROUP'S TOTAL ASSETS REACHED USD 7.9 MILLION IN 2018.

## ENVIRONMENTAL

**Environmental Investment Expenditure**  
Erdemir: USD 888,900  
İsdemir: USD 920,080

**2018 R&D expenditure:**  
USD 10,967,667

**Environmental Performance Index**  
Erdemir: 91.3  
İsdemir: 78.1

**Energy Saving**  
Erdemir:  
USD 17,176,224  
İsdemir:  
USD 53,746,373

**Solid Waste Recovery Rate \***

Erdemir: 86.4  
İsdemir: 56.3

\* Types of solid wastes reused vary.

**Ratio of Recirculated Water Use**

Erdemir: 92.5  
İsdemir: 94.8

**USD 1.8 MILLION**

IN 2018, USD 1.8 MILLION ENVIRONMENTAL INVESTMENT EXPENDITURE HAS BEEN REALIZED IN ERDEMİR AND İSDEMİR.

# SOCIAL

## Total Employment (people)

Erdemir: 5,844  
İsdemir: 4,724

## 2018 Ratio of Female Recruitment

Erdemir: 18%  
İsdemir: 23%

## Total Trainings (hours)

Erdemir: 258,372  
İsdemir: 211,228

## Total Occupational Health & Safety (OHS) Trainings (hours)

Erdemir: 141,656  
İsdemir: 173,959

# 469,600 HOURS

TOTAL TRAINING GIVEN IN ERDEMİR  
AND İSDEMİR WAS 469,600 HOURS  
IN 2018.



# FOCUSING AT THE FUTURE

A PRODUCT IN EVERY INNOVATIVE FORMULA  
ON THE ROAD TO THE FUTURE



# AWARDS GIVEN TO ERDEMİR AND İSDEMİR

**OYAK Mining Metallurgy Group's work has won wide acclaim and awards on the national and international stage.**

**The awards in different areas testify to the Group's identity as a responsible stakeholder in the sustainable future in the world as well as in Turkey.**

## **Efficiency Awards for Erdemir and İsdemir**

Erdemir won the first place award in the Efficiency Awards which have been organized by the Ministry of Industry and Technology's General Directorate of Efficiency since 2014, in the Large Scale Business/Process Improvement category with the Power Plant Optimization Project. With this award, Erdemir has won four first place awards, two second place awards and one third place award in the various events which it has participated since 2001.

Having participated in various competitions with energy saving projects between 2002-2018, İsdemir was awarded third place in the Large-Scale Business/Sustainable Production category with its "Increasing Flat Steel Production with the Slab-Length Optimization OPEX project" in the same competition.

## **İsdemir wins "Energy Award".**

İsdemir has won six first, two second, two third and two Jury Special Awards to date in the competitions in which it has participated, in the "Energy Efficiency in Industry Project Competition", "Increasing Energy Efficiency in Industry Projects (SEVAP-3)" category.

İsdemir won 1<sup>st</sup> prize in the "Projects to Increase Energy Efficiency in the Industry" (SEVAP-3) category in the "2017 Energy Efficiency in the Industry Project" (SENER) competition held by the Ministry of Energy and Natural Resources.

In 2018, İsdemir ranked third in Energy Efficiency Projects in Industry (SEVAP-3) Category at the Energy Efficiency Project Competition (SENER-18) held by the General Directorate of Renewable Energy (YEGM), with its project to save energy by reducing fan values in the high carbon production of the Kangal Rolling Mill.

In April 2019, İsdemir was awarded second prize in the SEVAP-3 category with the "Brush Type Seal Application in the Power Plant Boiler Air Front Heaters".

## **A clutch of awards for the "Let the Fields Be Ploughed and the Tradition Continue" project**

In order to protect the Ottoman strawberry, which has become synonymous with the Ereğli region but whose production had declined in recent years, and to contribute to biodiversity, Erdemir's "Let the Fields Be Ploughed and the Tradition Continue" project received recognition in the Felis Awards organized by Mediacat in the categories of sustainability and social responsibility and finance/economy.

The project also received two awards, in the sustainability communication and local values categories at the PRIDA Communication Awards organized by the Association of Communication Consultancy Companies (IDA).

# OYAK MINING METALLURGY GROUP AND SUSTAINABILITY INDICES

## **Erdemir and İsdemir shared the first two places, leading the metal industry in the Platinum Global Awards.**

Erdemir was selected as the leader of the iron and steel industry in the survey of the Capital Magazine's Most Admired Companies in Turkey and also took first place in Capital Magazine's Top 500 Private Companies of Turkey survey in the "Most Profitable Companies" category.

Erdemir and İsdemir took the first two positions in the metal sector in the Platinum Global Awards where the top 100 leading companies in terms of international trade in Turkey were awarded.

## **Erdemir awarded in the MESS OHS (Occupational Health and Safety) competitions.**

Erdemir received an award in the 2<sup>nd</sup> Golden Suggestion competition organized by the Turkish Employers Association of Metal Industries (MESS) and which evaluated best practices contributing to the improvement of occupational health and safety in workplaces. The Ferroli improvement team at Erdemir's Raw Material Sampling and Preparation Laboratory won an award in the Golden Suggestion competition, where OHS suggestions submitted by hourly-salaried employees to their workplaces and the applications they contributed to their development were awarded.

Erdemir was rewarded for its work entitled "Improving the Elimination System of Alloy Samples" in the category of workplaces employing more than 500 people in the Golden Gloves and Golden Suggestions Occupational Health and Safety Competition held by MESS on 19 December 2018.

## **Erdemir maintained its position in the Sustainability Index.**

This year, Erdemir was once again included in the BIST Sustainability Index, which includes companies traded on the Borsa İstanbul (BIST) with a high corporate sustainability performance.

As a result of OYAK Mining Metallurgy Group's successful performance in sustainability management, Erdemir was again one of the few companies to be included in Borsa İstanbul Sustainability Index in 2018, as it was in 2017, and it maintained its position in the Index covering the period from November 2017-October 2018.

İsdemir will also be evaluated in BIST Sustainability Index in 2019 based on its 2018 figures.

The BIST Sustainability Index ensures that companies' approach to sustainability, their operations and their decisions are assessed from an independent viewpoint.

**THE AWARDS IN DIFFERENT AREAS TESTIFY TO THE GROUP'S IDENTITY AS A RESPONSIBLE STAKEHOLDER IN THE SUSTAINABLE FUTURE IN THE WORLD AS WELL AS IN TURKEY.**



**THE MOST IMPORTANT RESPONSIBILITY FOR CORPORATE PLAYERS IS TO RESPOND TO THE RISKS THAT THREATEN THE SUSTAINABILITY OF OUR PLANET AND HUMANITY BY TAKING JOINT AND RAPID ACTIONS AND TO TAKE THE RIGHT APPROACH IN EVALUATING NEW OPPORTUNITIES FOR ALL HUMANITY.**

**Dear Stakeholders,**

**Today's changes bring the key to unlock the future.**

Today's conditions for living and well-being are shaped by numerous variables such as climate change, global warming, inequality in living standards and the depletion of natural resources as well as economic dynamics.

Each of these variables affects us, our families, our businesses, our habitat and our level of prosperity in different dimensions. At this point, one very important and inescapable point arises. This transformation, which has been experienced and has reached a dizzying pace in recent times, is destined to influence our planet and humanity much more in the future than it does now. On the other hand, as a result of human activity and increased consumption, the waste generated by the rate at which we are depleting natural resources will decisively affect the living conditions of future generations.

Another issue that will shape our future is climate change and global warming.

This unnatural situation, which has been scientifically proven to have been triggered by human activity, will leave our planet facing much more difficult conditions in every aspect in the future when compared to today.

The most important responsibility for corporate players is to respond to the risks that threaten the sustainability of our planet and humanity by taking joint and rapid actions and to take the right approach in evaluating new opportunities for all humanity.

This process, which has undergone such a rapid change, is crucial for the future of the business world. Despite the significant risks, this change will also bring about new areas of growth and development, and provide an environment which will enable the formation of innovative business models.

From the business world perspective, the key to finding a solution is “to come together around cooperation and common goals”. The word “competere”, derived from the Latin words “Con” and “Petere”, means “cooperation for a common objective”, although it is actually applied in the sense of competition today. We believe that sustainability will reach the status it deserves in the business world with the convergence of competition with cooperation, and with the support of the win-win concept that is recognized in today’s business world.

**Mining sector, where our Group is a global player, has a leading role in circular economy.**

The task of the OYAK Mining Metallurgy Group is to introduce consumers to fully green steel products that can be recycled in perpetuity. In doing so, our basic responsibility is to understand the change with positive and negative aspects, to manage the economic, environmental and social risks effectively and to internalize business opportunities with a proactive approach.

**We believe the steel industry has an important role to play in tackling climate change.**

Our Group adopts a circular economy approach to make a difference in the efforts to tackle climate change, while aiming to ensure energy and material efficiency from end-to-end, and to reduce environmental footprint by continuously developing facilities with new technologies.

Within the scope of its strategic objectives, OYAK Mining Metallurgy Group focuses on the lowest total cost of ownership, prioritizing efficiency-enhancing and innovative solutions in all of its projects as it prepares for the future while investing in the latest technologies in line with the needs of its companies.

For us, the basic and indispensable responsibility is to be strong, durable and competent in the market in the medium and long term as well as in the short term. As long as we can generate value for our stakeholders in the medium and long term, OYAK Mining Metallurgy Group will succeed in realizing its sustainability mission.

**The IEM - maximizing human, environment and financial value**

The İsdemir Excellence Model (IEM) developed by OYAK Mining Metallurgy Group, which aims to increase the efficiency and effectiveness of all resources used in production, primarily human resources, was implemented at İsdemir in 2017. The model, which provided valuable gains for sustainability within a short space of time, was rolled out in the Group in 2018.

Having one of the largest employment capacities of our country with 12,000 employees, the Group aims to use human intelligence - or in other words, “natural intelligence”, in the most efficient way.

The IEM is an original model, and the teams that we have established personally evaluate the employees who contribute to sustainability and the projects that they have developed. Sustainability criteria are taken into consideration in the studies, and projects are then integrated into the group in view of the compatibility of projects with the IEM.

The IEM, which can be summarized with the motto of “maximizing human, environment and financial value”, aims to create a corporate culture which always seeks the best and which stands one step ahead of the competition by using the intellectual knowledge accumulated over the long history of the OYAK Mining Metallurgy Group.

We are conducting studies to spread the model to cover the entire product value chain. As of the end of 2018, a total of 508 of the 774 projects within the scope of the IEM - consisting of 9 function groups - had been completed. In our Group, we foresee a reduction in resource utilization equivalent of USD 92 million from completed projects. A total of 166 projects were launched at the Ereğli Plant within the scope of the IEM, which was commissioned on 15 August 2018. Considering all attendance, gross participation at Erdemir reached 1,000 people, net participation reaching 500 people, while gross participation at İsdemir reached 1,978 people and net participation reached 1,191 people.

# MESSAGE FROM HEAD OF GROUP

## **Project management increasingly supporting the internalization of sustainability with “TIM structuring”**

By “TIM structuring” which we have implemented throughout the OYAK Mining Metallurgy Group, we bring together the competencies of our teams in line with our needs within the scope of Project Management.

Focusing on using corporate knowledge and competencies to reach the highest possible productivity, this approach supports the completion of projects which we carry out in different locations.

Duty-based management also supports our ability to increasingly internalize sustainability in all aspects. Through such action, we improve our ecological footprint and achieve significant gains, while providing greater optimization in a range of different areas, from the use of natural resources to the management of waste.

## **Natural intelligence will be the most valuable source of capital in the new economic system.**

Our primary duty and responsibility on the human resource axis is to protect the health of all employees in our workplaces, to ensure that they are not exposed to any accidents and to develop and maintain a decent working environment. The other issue which we prioritize and attach great importance to in terms of our human resources is to increase the competencies of our employees through systematic work and to deploy our natural capital in the most efficient way possible.

## **Sustainability investments make us stronger.**

The OYAK Mining Metallurgy Group took a large number of sustainability investment decisions at the Erdemir and İsdemir premises in 2018. Our Group determined its investment decisions by focusing on updating technologies in facilities and maximizing production efficiency.

One of these investments is the Erdemir New 2<sup>nd</sup> Blast Furnace project, which will involve a comprehensive updating of the technology. The project will ensure the continuity of liquid crude

iron production and contribute to all aspects of sustainability. Another investment planned by Erdemir is the establishment of the New Sinter Plant. This project will increase access to local raw material resources and provide savings in fuel usage as well as a reduction in SOx emissions. The 4<sup>th</sup> Coke Battery Project, which will lower natural gas consumption at Erdemir, will realize coke production with lower emissions and higher energy efficiency thanks to its new technologies. The 6<sup>th</sup> Steam Boiler Project, which will be commissioned in the same plant, will contribute to steam production by utilizing by-product gases and waste heat.

Work continues on similar investments at our İsdemir facilities. The İsdemir 3<sup>rd</sup> Coke Battery modernization project will contribute to the safer production of coke with lower emissions and higher energy efficiency. The New Sinter Plant, among the other projects planned at İsdemir, will provide savings in raw material costs and reduce SOx emissions. Our New 1<sup>st</sup> Blast Furnace project will support our Group's total performance in all aspects.

## **Innovation is one of our key priorities.**

With its R&D and product development competencies, the OYAK Mining Metallurgy Group undersigned a number of innovations in 2018 and improved its sustainability performance.

One of the important achievements on this axis was our entry into the wind power market. Steel plates to be used in wind farm projects within the OYAK Mining Metallurgy Group started to be produced. In this process, we have become a certified supplier for a number of international companies.

**THE OYAK MINING METALLURGY GROUP DETERMINED ITS INVESTMENT DECISIONS BY FOCUSING ON UPDATING TECHNOLOGIES IN FACILITIES AND MAXIMIZING PRODUCTION EFFICIENCY.**

Sales to TANAP, BRUA, Turk Stream, Eurostream and numerous BOTAŞ projects have played an important role in raising our share in domestic and foreign oil/natural gas pipeline projects. The Group managed to triple its sales of X60 and higher grades, which had been imported from abroad.

### **The “Let the Fields Be Ploughed and the Tradition Continue” Project**

Biodiversity is a matter of priority. In line with this, our Group realized the “Let the Fields Be Ploughed and the Tradition Continue” project in 2016 with the aim of increasing production of the Ottoman Strawberry which has become synonymous with the Ereğli region, promoting the cultivation and contributing to biodiversity and species conservation in the region.

At the end of a long and highly challenging process, the first fruit harvest was completed in 2018. Farmers who showed an interest in cultivating the strawberry received training in farming of the strawberries. A total of 10,000 seedlings, duplicated and protected in the cold room, were distributed to 20 volunteer growers. We will continue to support and develop this project, which represents a clear and successful example of our cooperation with local people.

Another project we are focusing on concerns the planting of trees. According to scientific research, once Turkey’s total number of trees reaches 20 trees per person, our country will be carbon neutral.

We are embodying our contribution to this national goal through the tree planting activities carried out on the Erdemir and İsdemir premises in order to reduce our Group’s carbon footprint. Our corporate objective is to increase the number of trees per employee in the OYAK Mining Metallurgy Group to 20, systematically expanding our tree presence, and then completing the carbon certification work.

## **WE ARE COMMITTED TO DEVELOPING OUR ACTIVITIES IN A MULTIDIMENSIONAL WAY AND TO USE THE LEVERAGE OFFERED BY OUR SCALE TO EXPAND OUR SUSTAINABILITY DOMAIN.**

### **A strategy that is realistic, competitive and focused on the future**

The OYAK Mining Metallurgy Group is a stakeholder in the global system. Our Group’s strategy is to contribute to macroeconomic development and reconstruction in all aspects within the framework of its enduring commitment to the global ecosystem and its stakeholders, and to support global targets that offer a legacy of a more livable planet for future generations.

Evaluating our suppliers, customers and employees as a whole, the wide area of our Group’s impact becomes evident. We are committed to developing our activities in a multidimensional way and to use the leverage offered by our scale to expand our sustainability domain.

We believe we will meet new and higher targets together with our employees and our stakeholders who have internalized sustainability as a philosophy of life in this process where we will focus more on cooperation than ever before.

On behalf of myself and the senior management, I would like to thank my colleagues and all of our stakeholders for their dedication.

Kindest regards,

### **Toker Özcan**

Head of OYAK Mining Metallurgy Group -  
Deputy Chairman of the Board of Directors and  
Executive Director

# SUSTAINABILITY JOURNEY OF OYAK MINING METALLURGY GROUP

## 2011

- The TS EN 16001 EMS Document is received.

## 2012

- The R&D Center is established.
- RIO+20 Sustainable Development in Turkey and the Best Application in the field of Green Economy.
- Statistical Data Analyses trainings are initiated.

## 2013

- The ISO 50001 EMS document is awarded.
- Three year extension of the ISO TS 16949 document is approved.

## 2014

- The Sustainability Directorate is established.
- The Erdemir Biodiversity Policy is shaped.
- 3<sup>rd</sup> Prize in Efficiency Project Awards is received.
- 3<sup>rd</sup> prize in Istanbul Chamber of Industry 14<sup>th</sup> Environment and Energy Awards is received.
- Operational Excellence (OPEX) Projects are initiated.



# 2011

## 2015

- The Continuous Wastewater Monitoring Systems are established.
- The Greenhouse Gas Monitoring Plan is submitted to the Ministry.
- The Supplier Environment Impact assessments are initiated.
- The Environmental Permit Document is renewed.
- Employees start to receive Ethical Rules training.
- Isdemir wins 1<sup>st</sup> prize in The Primary Metal Industry Reduction of Energy Intensity.
- Erdemir wins 2<sup>nd</sup> prize in 2<sup>nd</sup> Efficiency Project Awards.
- Erdemir wins the Green Era Award.
- Life Cycle Assessment studies are started.

## 2016

- Water footprint studies are initiated.
- The ISO/IEC 27001 ISMS document is awarded.
- Isdemir wins 1<sup>st</sup> prize in 16<sup>th</sup> Energy Efficiency in the Industry Project Competition.
- Total Productive Maintenance (TPM) Project is initiated.

## 2017

- Greenhouse Gas Verification work gets underway.
- Supplier Risk Analysis Assessment activities are started.
- Product Sustainability studies are initiated.
- Organizational Sustainability work groups are established.

## 2018

- The Life Cycle Analysis was conducted.
- Carbon capture technologies were examined.
- Studies on improving the quality of process gases were initiated.
- Carbon certification studies got underway with the tree planting project.
- Investment decisions were taken on production sustainability.
- The Excellence Model was created.
- Process sustainability digitalization projects were implemented.

# 2018

# SUSTAINABILITY VISION AND STRATEGY AT THE OYAK MINING METALLURGY GROUP



**In line with its sustainability vision, the OYAK Mining Metallurgy Group always aims to be a part of the solution.**

**In order to achieve this goal, the Group transforms sustainability into a way of doing business with the philosophy of “new thinking, innovative thinking” in the product value chain.**

The steel industry plays a critical role in technological development and the sectors that enable and empower the green economy.

As the most important engineering and building material in the modern world, steel is used as an input in every field of life, including

- buildings using renewable energy,
- low carbon transportation,

- fuel-efficient, clean energy vehicles,
  - infrastructure for recycling facilities,
- and is expected to continue to play an important role in ensuring sustainable development in the next century.

The OYAK Mining Metallurgy Group companies, Erdemir and İsdemir, fulfill their responsibilities as Turkey's leading steel producers in line with the principles of sustainable development with the continuous development of production technologies, energy and resource efficiency, the efforts to minimize their environmental impact, the innovative solutions needed

**OYAK MINING METALLURGY GROUP COMPANIES, ERDEMİR AND İSDEMİR, FULFILL THEIR RESPONSIBILITIES AS TURKEY'S LEADING STEEL PRODUCERS IN LINE WITH THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT.**

by steel consuming sectors, recycling and reproduction, the employment they provide directly and indirectly, and the contribution they provide to the well-being of their employees and society.

**The OYAK Mining Metallurgy Group structures its sustainability philosophy on economic, environmental and social pillars, adopting a strategy in line with the UN 2030 Sustainability Development Goals (SDGs).**

The OYAK Mining Metallurgy Group is aware of the needs, both for today and for the future. Acting as a sensitive, respectful and responsible corporate citizen, the Group aims to contribute to the continuity of the conditions in which people and nature exist in harmony.

The Group considers the benefit of its stakeholders at an economic, environmental and social level while improving its performance as it creates a transparent, open and accountable structure. In this context, the Group anticipates the challenges of the rapid transformation taking place in the world and is working on different scenarios that will capture every opportunity while determining its strategies.

**OYAK Mining Metallurgy Group Sustainability Strategy**

Our main focuses are;

- Organizational Health and Safety
- Climate Change and Energy
- Human Resources

The OYAK Mining Metallurgy Group Sustainability Strategy is based on combating climate change and global warming, using scarce resources in an optimal way and avoiding waste, and adding more value to the human and social environment with technology and innovation. The strategy accordingly both directs and sheds a light on all activities of the Group.

Within the scope of its sustainability journey, which begins with the steps of compliance with legal regulations along with energy, water and carbon management, the Group adopts technological innovation as the main principle of sustainability, with the aim of achieving a strong financial performance and efficiency in the long term.

Erdemir and İsdemir adopt the sustainability approach and monitors how closely its employees meet their responsibility with annual performance reviews and corporate scorecards.

The Group's sustainability strategy revolves around sensitivity to the environment and the planet we live on. It brings its strategy to the individual through the various projects it creates, enables everyone to internalize the philosophy by integrating it into sustainability projects, and strives to collaborate with external stakeholders to promote understanding of the importance of sustainability, both within and outside the Group.

# UN 2030

OYAK MINING METALLURGY GROUP STRUCTURES ITS SUSTAINABILITY PHILOSOPHY ADOPTING A STRATEGY IN LINE WITH THE UN 2030 SUSTAINABILITY DEVELOPMENT GOALS (SDGS).

**WITHIN THE SCOPE OF ITS SUSTAINABILITY JOURNEY, THE GROUP ADOPTS TECHNOLOGICAL INNOVATION AS THE MAIN PRINCIPLE OF SUSTAINABILITY, WITH THE AIM OF ACHIEVING A STRONG FINANCIAL PERFORMANCE AND EFFICIENCY IN THE LONG TERM.**

# SUSTAINABILITY VISION AND STRATEGY AT THE OYAK MINING METALLURGY GROUP

The OYAK Mining Metallurgy Group aims to;

- Integrate sustainability into all business processes, including the supply chain, sales and after sales services,
- Reduce the environmental footprint while producing value-added products,
- Ensure sustainable production conditions at the Group level, which monitor energy and raw material efficiency and prioritize occupational health and safety,
- Support continuous development within the framework of feedback by creating social value for all stakeholders.

## The İsdemir Excellence Model (IEM)

The goal of the OYAK Mining Metallurgy Group is to be a pioneer of continuous development in the Turkish industry and to leave a more livable world for future generations by ensuring the continuity of its strong financial structure, using energy and raw materials efficiently in production and creating value for all its stakeholders.

Sustainability work carried out by the Group in line with the philosophy of “new thinking, innovative thinking” includes product value chain and business processes on an end-to-end basis. To ensure the inclusion of all stakeholders in these studies, the Group develops projects and ensures that the philosophy of sustainability is adopted widely by assigning tasks to its employees in the projects. On the other hand, the Group spreads its sustainability awareness to other stakeholders through activities organized outside the organization.

## Targets of the OYAK Mining Metallurgy Group

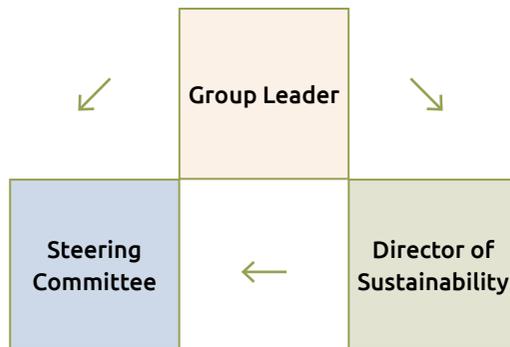
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Within the framework of the İsdemir Excellence Model developed by the Group at its plants, the Group ensures sustainability in all rings of the value chain and carries out its activities proactively by keeping its internal and external stakeholders in its domain by ensuring the participation of all employees in working groups such as:

- Total Safe Production,
- Total Productive Production,
- Effective Cost Management,
- Human Resources,
- Efficient Energy Management,
- Efficient Procurement Management,
- Investments,
- Stakeholders,
- Innovative Approaches

The sustainability projects carried out by the sub-working groups consisting of "Sustainability Agents" behind each of the groups structured under the Excellence Model are presented to the Steering Committee once a month by the Director of Sustainability.



## Sustainable Development Goals and OYAK Mining Metallurgy Group

### Projects compatible with the OYAK Mining Metallurgy Group's sustainability philosophy contribute to ten of the United Nations Sustainable Development Goals (SDGs).

The OYAK Mining Metallurgy Group set out its sustainability strategy map while pursuing the United Nations' agreement on "the Transformation of Our World: 2030 Sustainable Development Agenda" in the framework of the 17 Sustainable Development Goals (SDGs), consisting of 169 sub-headings.

The OYAK Mining Metallurgy Group believes in the importance of all of the SDGs with respect to the environment, human life and the healthy progress of the society; indeed, with the sustainability projects carried out within the Group, it provides efficient benefits to targets 4, 5, 6, 8, 9, 11, 12, 13, 15 and 17, and their sub-targets.

The related strategies and projects are determined by the OYAK Mining Metallurgy Group Sustainability Directorate under the sponsorship of the Group Chairman.

These projects are designed to support the processes in the Group's value chain as well as to improve these processes.

The main sustainability priorities of the Group are economic performance, innovation management, environmental performance and social performance.



# SUSTAINABILITY VISION AND STRATEGY AT THE OYAK MINING METALLURGY GROUP

The main sustainability priorities of the Group are economic performance, innovation management, environmental performance and social performance.

Being responsive	Individualization	Internalization
<p>Within the efforts to tackle climate change, we aim to adopt the cyclical economy approach to ensure energy and material efficiency and to contribute to sustainable development.</p>	<p>By bringing the concept of corporate sustainability to the individual, we ensure the contribution of each employee on a project basis and ensure sustainability in human resources.</p>	<p>We make the concept of sustainability our way of doing business.</p>
 <p>Climate Change-LCA (13.2)</p>	 <p>Erdemir Academy (4.4) Sale Academy Purchase Academy Iron-Steel Academy</p>	 <p>Supply Chain Management (8.3) Digitalization (HTPS, GRC, Supplier evaluation project) (8.2, 17.7)</p>
 <p>Environmental Management Process and Performance Indices (12.4, 6.b)</p>	 <p>Women in production</p>	 <p>R&amp;D (9.b) Production Management (9.b) Holistic perspective (IEM) Product quality improvement works (API) (9.2)</p>
 <p>Biodiversity(15.a) Let the Fields Be Ploughed and the Tradition Continue</p>	 <p>OHS</p>	 <p>Production efficiency (studies to reduce use of alloys, İsdemir slab optimization, attenuation studies with manufacturing industry) (12.2)</p>
 <p>Wind power projects (9.4) New galvanizing line investment (9.2) Erdemir new sinter factory project (9.4) Erdemir modernization of 4<sup>th</sup> coke battery and secondary product facilities 9.4) İsdemir modernization of 3<sup>rd</sup> coke battery (9.4) İsdemir new sinter factory project (9.4) Erdemir 2<sup>nd</sup> blast furnace (9.4) İsdemir 1<sup>st</sup> blast Furnace (8.2)</p>	 <p>Digital HR (17.7) Erdemir Romania Phoenix (17.6)</p>	
		

## Establishing business partnerships

We create value for social innovation by introducing projects to external stakeholders.

	<p>Support for the Space Team Grizu-236 for Cansat Competition</p> <p>Contribution to the New Horizons Science Workshop</p> <p>İsdemir's contributions to state schools (reading room, establishment of coding class to contribute to technological infrastructure)</p> <p>Support for various projects such as the İskenderun Technical University's electric car project</p> <p>Support for the development of the opportunities of sculpture workshops at Akdeniz University and Mimar Sinan Fine Arts University</p> <p>Supplying steel for academic studies at higher education institutions and, in particular, metallurgy materials for engineering departments</p> <p>Erdemir-Support to non-governmental organizations working for the benefit of society, especially the Association of Physical Disabilities in Karadeniz Ereğli</p> <p>Support for furnishings in the Ereğli branch buildings of the Turkish War Invalids, Veterans, Martyrs' Widows and Orphans Association, the Mining Martyrs Association and the Foundation for Children with Leukemia.</p> <p>Meeting the cleaning and electrical needs of schools in the İsdemir region</p> <p>Stationery and material support for various organizations, and meeting lunch expenses of students in financial need</p>
	<p>Customer Satisfaction and Product Perception Survey (8.2)</p> <p>Relations with local stakeholders (8.3)</p>
	<p>Projects carried out with stakeholders within the scope of the IEM (11.a)</p>



## CORPORATE GOVERNANCE

OYAK Mining Metallurgy Group conducts its relationships with its stakeholders on the basis of accountable and responsible management principles that are transparent, ethical, and compliant with laws and regulations. The Group regards these principles as elements of corporate governance that are essential to its ability to fulfill its responsibilities towards stakeholders and be mindful of their rights, to make effective use of resources, and to ensure the sustainability of its productive operation and of the added value that it creates for stakeholders.

Erdemir and İsdemir likewise formulate and constantly improve their corporate governance models and practices in line with this basic framework.

The Group's Corporate Governance Compliance Report and Information Form were publicly disclosed in its 2018 annual report and on its corporate website as well as at the Public Disclosure Platform (KAP).

[https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/2018-Corporate\\_Governance\\_Compliance\\_Report\\_and\\_Information\\_Form-2455.pdf](https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/2018-Corporate_Governance_Compliance_Report_and_Information_Form-2455.pdf)

**OYAK MINING METALLURGY GROUP'S MANAGEMENT PRINCIPLES ARE TRANSPARENT, ETHICAL, AND COMPLIANT WITH LAWS AND REGULATIONS.**

### Structure and Formation of Board of Directors

Within the scope of Erdemir's Articles of Association, Board of Directors consists of minimum 5 and maximum 9 members to be selected by the General Assembly of Shareholders under the provisions of Turkish Commercial Code and Capital Markets Board Law.

Except the Independent Board Members, Board of Directors consists of legal persons and in 2018 the Company had two women members who are the proxy of a legal person.

For detailed information on the structure and formation of board of directors, please see page 84-85 of OYAK Mining Metallurgy Group's 2018 Annual Report.  
[https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR\\_18-TR\\_FINAL-180319-2469.pdf](https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR_18-TR_FINAL-180319-2469.pdf)

### Number, Structure and Independence of the Committees Established Under the Board of Directors

At Erdemir an Audit Committee, an Early Detection of Risk Committee and a Corporate Governance Committee were set up so that the Board of Directors is able to perform their tasks and responsibilities more effectively. Committees' meeting schedules and their activities, and operational procedures are specified in sets of regulations that are published on the corporate websites. The decisions that such committees take are of an advisory nature and they are submitted as such to the Board of Directors, which has the final say.

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 chairmen of the other committees to be comprised of the independent board members.

Frequency of Meetings of the Audit Committee:	Frequency of Meetings of the Early Detection of Risk Committee:	Frequency of Meetings of the Corporate Governance Committee:
Once every three months and at least four times a year.	Once every two months and at least six times a year.	Once every three months and at least four times a year.

For detailed information on the committees established under the Board of Directors, please see page 98-99 of OYAK Mining Metallurgy Group's 2018 Annual Report.  
[https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR\\_18-TR\\_FINAL-180319-2469.pdf](https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR_18-TR_FINAL-180319-2469.pdf)

For detailed information on the corporate governance practices, please see page 87-97 of OYAK Mining Metallurgy Group's 2018 Annual Report.  
[https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR\\_18-TR\\_FINAL-180319-2469.pdf](https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/ERDEMIR_18-TR_FINAL-180319-2469.pdf)

**ERDEMİR AND İSDEMİR FORMULATE AND CONSTANTLY IMPROVE THEIR CORPORATE GOVERNANCE MODELS AND PRACTICES IN LINE WITH GROUP PRINCIPLES.**

# CORPORATE GOVERNANCE AT OYAK MINING METALLURGY GROUP

## **Policies and Regulations Adopted by OYAK Mining Metallurgy Group**

The policies and regulations improved by OYAK Mining Metallurgy 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:  
[www.oyakmadenmetalurji.com.tr/homepage#/investor-relations/corporate-governance/policies-and-regulations/](http://www.oyakmadenmetalurji.com.tr/homepage#/investor-relations/corporate-governance/policies-and-regulations/)

OYAK Mining Metallurgy Group has also published comprehensive policies concerning human resources, occupational health and safety, management systems.

## **Corporate Governance Rating Note**

Erdemir, an OYAK Mining Metallurgy Group company, increased its corporate governance rating from 9.22 in 2017 to 9.27 in 2018 in the Corporate Governance Principles Compliance Rating Report, for which it first applied in 2015 and where its compliance with Corporate Governance Principles was evaluated. With this successful achievement, Erdemir has once again been qualified for inclusion in the Corporate Governance Index, proving that it is a transparent, fair, responsible and accountable institution.

Kobirate International Credit Rating and Corporate Governance Services Inc., with his authorized by the Capital Markets Board in Turkey (CMB) and which carries out the rating activities of companies included in the Corporate Governance Index of the Stock Exchange Istanbul (BIST), prepared Erdemir's Corporate Governance Principles Compliance Rating Report.

The report states that Erdemir's compliance with the Corporate Governance Principles published by the Capital Markets Board (CMB) has been meticulously adopted, public disclosure activities and transparency are at a high level, and the rights of shareholders and stakeholders are fairly observed. In the report, which also recognizes that the structure and working conditions of the Board of Directors are compliant with the Corporate Governance Principles, it was stated that Erdemir deserved a place in the BIST Corporate Governance Index at the highest level.

# 9.27

**ERDEMİR INCREASED ITS CORPORATE GOVERNANCE RATING TO 9.27 IN 2018 IN THE CORPORATE GOVERNANCE PRINCIPLES COMPLIANCE RATING REPORT.**

**ERDEMİR'S CORPORATE GOVERNANCE PRINCIPLES COMPLIANCE RATING REPORT STATES THAT ERDEMİR'S PUBLIC DISCLOSURE ACTIVITIES AND TRANSPARENCY ARE AT A HIGH LEVEL, AND THE RIGHTS OF SHAREHOLDERS AND STAKEHOLDERS ARE FAIRLY OBSERVED.**

## RISK MANAGEMENT

### Corporate Risk Management Approach

As a steel producer, the OYAK Mining Metallurgy Group is exposed to a range of risks such as any slowdown in global growth, trade wars, protectionism, cyber threats and climate change, as well as environmental risks related to the industry, occupational health and safety, explosions, and disruption in the supply chain. It is therefore vitally important to proactively identify and manage various types of risk. In aiming to proactively identify and manage existing and emerging risks, the OYAK Mining Metallurgy Group established a centralized Corporate Risk Management system, supported by policy and procedures and managed by representatives who are designated in the field.

The Corporate Risk Management Unit reports directly to the CFO and conveys corporate risk issues to the Board of Directors every two months through the Early Detection of Risk Committee, which consists of two independent members of the board.

The risks the OYAK Mining Metallurgy Group faces are identified by workshops and updated when necessary. The risks determined are evaluated according to their effects and probability of occurrence, taking into account the current risk control measures. When needed, specialized experts are consulted in order to evaluate critical operational risks in the production facilities. The effects of the risks are dealt with in a variety of ways such as financial, market, reputation, occupational health and safety, environment and work interruption. In the framework of the criteria set out for each risk, realistic scenarios are taken into consideration and probabilities are evaluated. The risks are prioritized and the impact is mapped to X probability points. Detailed actions are taken to improve the status of

## OYAK MINING METALLURGY GROUP ESTABLISHED A CENTRALIZED CORPORATE RISK MANAGEMENT SYSTEM, SUPPORTED BY POLICY AND PROCEDURES AND MANAGED BY REPRESENTATIVES WHO ARE DESIGNATED IN THE FIELD.

critical risks that could violate the tolerance level in any of the impact criteria, from rapid gains to long-term comprehensive investment plans.

The OYAK Mining Metallurgy Group periodically reviews its risks in view of the variable nature of its business environment and operations. More than 700 risks were updated in 2018, including some new risks emerging due to changing circumstances. The Group, which aims to leave no risk element uncovered, is inclusive in the risk identification phase, but selective in determining the risks that need to be focused on. In this direction, of the risks identified, 28 were categorized as highly significant and 75 were important. Appropriate risk reduction actions were applied to keep the remaining risks below tolerance levels.

### Risk Control and Mitigation Actions

The OYAK Mining Metallurgy Group has field teams that focus on the effective management of a range of risks, in particular environmental and occupational health and safety risks. The Group's innovative practices in the field of occupational health and safety won a number of awards in 2018, including the award from EU-OSHA. The OYAK Mining Metallurgy Group keeps its dependence on critical supply areas at tolerable levels by increasing its control over the supply chain with infrastructure investments.

The OYAK Mining Metallurgy Group generates its own electricity at one of the largest production facilities and contributes to its environmental approach. In this context, up to 66% of its electricity requirement is generated on-site, half of which is through waste gases. On the other hand, all water needs are provided from reservoirs from which the Group started electricity generation with its hydroelectric power plant, thus reducing the dependence on national water supplies and related risks.

The Group is investing heavily to reduce Turkey's dependence on imported iron ore and to use local iron ore deposits.

The OYAK Mining Metallurgy Group carefully evaluates vulnerabilities that may arise from possible cyber risks. Both internal resources and third parties are often employed to conduct tests and develop solutions for the effective management of cyber threats.

Since the Group operates in the commodity market, it closely monitors its financial risks through sensitivity analysis, taking into account the potential negative effects of fluctuations in steel, coal, iron ore prices and exchange rates, as well as the default of the counterparty.

The OYAK Mining Metallurgy Group acknowledges the existence of a wide array of unpredictable threats, although it has so far taken measures to bring most of its risks under control. Given the wide range of suppliers and the risks to which they may be exposed, it is evident that the Group needs a comprehensive supplier risk management tool integrated into its supply chain management system. The Group, which initiated the integration of the supplier risk assessment into the new supplier management development project, aims to complete this work in 2020.

## CODE OF ETHICS AND INTERNAL AUDIT SYSTEM

### **OYAK Mining Metallurgy Group Code of Ethics and Anti-Corruption Policy**

OYAK Mining Metallurgy Group's Code of Ethics and Business Conduct sets out the standards, ethical practices and expectations that form the basis for its business relations and activities, OYAK Mining Metallurgy Group's Code of Ethics and Business Conduct apply to all of the Group companies, related third parties and employees.

OYAK Mining Metallurgy 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.

OYAK Mining Metallurgy Group's anti-corruption approach is detailed in the Anti-Corruption Policy document and announced to all stakeholders on the Group companies' websites. According to OYAK Mining Metallurgy Group Anti-Corruption Policy; regardless of being in public or private sector, accepting

**OYAK MINING METALLURGY 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.**

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. OYAK Mining Metallurgy 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, OYAK Mining Metallurgy Group does not support illegal activities. All donations and sponsorships carried out by OYAK Mining Metallurgy Group are managed and recorded by the Head of Corporate Relations and shared with the general public. OYAK Mining Metallurgy Group is not party to any political tendency or organization and does not donate to any political parties or politicians.

Within the scope of corporate 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.

OYAK Mining Metallurgy 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 OYAK Mining Metallurgy 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

## OYAK MINING METALLURGY GROUP ANTI-CORRUPTION POLICY INCLUDES ISSUES THAT NEED TO BE TAKEN INTO ACCOUNT IN THE ESTABLISHMENT AND CARRYING OUT OF BUSINESS PARTNERSHIPS.

responsibility during the procurement process of goods and services.

OYAK Mining Metallurgy Group works directly with their clients. Communications with the clients are held either directly with the client's corporate authorized person or through the intermediary 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 OYAK Mining Metallurgy Group.

OYAK Mining Metallurgy Group conducts the communication of the Code of Ethics 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.

OYAK Mining Metallurgy 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.

# CORPORATE GOVERNANCE AT OYAK MINING METALLURGY GROUP

Related Code of Ethics and Business Conduct are included in the recruitment sets of those new hires in any OYAK Mining Metallurgy Group company. Also 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. OYAK Mining Metallurgy Group's monthly-salaried employees are 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.oyakmadenmetalurji.com.tr/Sites/1/upload/files/Erdemir\\_Group\\_Anti\\_Corruption\\_Policy-1890-2125.pdf](https://www.oyakmadenmetalurji.com.tr/Sites/1/upload/files/Erdemir_Group_Anti_Corruption_Policy-1890-2125.pdf)

In 2016, OYAK Mining Metallurgy 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, OYAK Mining Metallurgy 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.

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

All OYAK Mining Metallurgy 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.

OYAK Mining Metallurgy Group adopts a policy that prevents attitudes and behavior, which could construed as retaliation against any employees or persons reporting an ethical violation. In 2018, reports received from the ethical communication channels were assessed sensitively through OYAK Mining Metallurgy Group Internal Audit Unit 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.

OYAK Mining Metallurgy Group Ethics Committee has the highest authority to ensure compliance with the Code of Ethics and Anti-Corruption Policy throughout the

**OYAK MINING METALLURGY GROUP ADOPTS A POLICY THAT PREVENTS ATTITUDES AND BEHAVIOR, WHICH COULD CONSTRUED AS RETALIATION AGAINST ANY EMPLOYEES OR PERSONS REPORTING AN ETHICAL VIOLATION.**

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. OYAK Mining Metallurgy 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. 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 Secretary of the Ethics Committee.

#### **Internal Audit System**

OYAK Mining Metallurgy 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 OYAK Mining Metallurgy Group companies' risk management, control and governance processes and improving them, reports directly to the Chairman of OYAK Mining Metallurgy Group.

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

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

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 2018 in the various business processes of the 7 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 OYAK Mining Metallurgy 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.

## MANAGEMENT SYSTEM POLICIES AT ERDEMİR AND İSDEMİR

OYAK Mining Metallurgy Group, which produces in accordance with national and international standards in the iron and steel sector, carries out all its processes in accordance with the law and under a management approach that creates value for its stakeholders and which is both responsible and accountable.

The Group's Occupational Health and Safety, Quality, Environment, Energy and Information Security Management Systems policy is based on managing by objectives, providing resources that are consistent with the objectives, continuous improvement and raising awareness of all employees.

The principles of the Occupational Health and Safety, Quality, Environment, Energy and Information Security Management Systems implemented at OYAK Mining Metallurgy Group are given below:

### Occupational Health and Safety

- Producing steel without accidents by managing risks systematically,
- To prevent work related accidents and illness by keeping the working environment and processes healthy and safe, and to protect the health of our employees,
- Expanding the sustainable security culture shaped by the participation and ideas of all of our employees,
- Implementing and maintaining the Security Management System to prevent major industrial accidents caused by processes and dangerous substances that cause significant loss of production and work.

### Quality

- To spread an approach of customer focus to the whole organization with effective communication,
- To create an innovative and creative employee culture,
- To increase profitability through projects and improvements that increase efficiency and reduce costs.

### Environment

- To implement environmental technologies following technical, economical and commercial evaluations from a Life Cycle and Sustainable Development perspective, to use natural resources effectively and efficiently and to protect biodiversity,
- To reduce waste at its source, to develop recycling methods and to promote recycling,
- To inform, to raise awareness among all social stakeholders including the employees, customers, suppliers, society and the state concerning OYAK Mining Metallurgy Group's perspective on the environment, its applications and the outcomes it obtains, and to establish open communication.

### Energy

- To implement technological innovations that increase energy efficiency,
- To maximize use of by-product gases and waste heat released,
- To minimize energy losses by systematic measurement and monitoring.

**OYAK MINING METALLURGY GROUP CARRIES OUT ALL ITS PROCESSES IN ACCORDANCE WITH THE LAW AND UNDER A MANAGEMENT APPROACH WHICH IS BOTH RESPONSIBLE AND ACCOUNTABLE.**

### Information Security

- To raise awareness among all employees that corporate information that is generated, processed and shared is of value,
- To define corporate information assets and information processing environments, to systematically manage the risks and to take precautions related to any vulnerabilities in security,

- To comply with the information security requirements of the stakeholders with whom there is an exchange of information, and to ensure the security of their information.

OYAK Mining Metallurgy Group carefully oversees these principles that it has adopted and reflects them on its behavior and work methods.

### Management System Certificates of Erdemir and İsdemir

Management Standard	Erdemir	İsdemir
TS EN ISO 9001:2015 Quality Management System	X	X
TS EN ISO 14001:2015 Environment Management System	X	X
TS 18001 Occupational Health and Safety Management System	X	X
IATF 16949:2016 Quality Management System for the Automotive Industry	X	X
TS EN ISO 50001 Energy Management System	X	X
TS EN ISO/IEC 17025:2012 General Requirements for the Competence of Testing and Calibration Laboratories	X	-
TS EN ISO/IEC 17025:2012 Laboratory Qualification Certificate	-	X
TS ISO/IEC 27001:2013 Information Security Management System	X	X

**THE GROUP'S MANAGEMENT SYSTEMS POLICY IS BASED ON MANAGING BY OBJECTIVES, PROVIDING RESOURCES THAT ARE CONSISTENT WITH THE OBJECTIVES, CONTINUOUS IMPROVEMENT AND RAISING AWARENESS OF ALL EMPLOYEES.**

# STAKEHOLDERS AND STAKEHOLDER RELATIONS



The OYAK Mining Metallurgy Group works to reflect the opinions and expectations of its stakeholders in almost all areas ranging from identifying strategies, developing new products, implementing social responsibility projects and evaluating their results, to developing cooperation.

The OYAK Mining Metallurgy Group believes in the importance of establishing effective and open communication in order to inform all of its stakeholders in a timely and accurate manner, to understand their needs and to meet their expectations at the highest level and in a balanced way. The Group uses a variety of communication tools to inform its stakeholders of its activities and to obtain their feedback and opinions on these activities. It works to reflect the opinions and expectations of its stakeholders in almost all areas ranging from identifying strategies, developing new products, implementing social responsibility

projects and evaluating their results, to developing cooperation.

The OYAK Mining Metallurgy Group, which places importance on effectively taking advantage of today's communication technologies, aims to use various media and tools in which face-to-face communication is provided to all stakeholders. The Group designs and organizes the websites so its stakeholders may easily access the information they want with a user-friendly design and simple interface.

**OYAK MINING METALLURGY GROUP USES A VARIETY OF COMMUNICATION TOOLS TO INFORM ITS STAKEHOLDERS OF ITS ACTIVITIES AND TO OBTAIN THEIR FEEDBACK AND OPINIONS ON THESE ACTIVITIES.**

To ensure that OYAK Mining Metallurgy Group stakeholders can easily communicate their demands and requests, tools such as question forms and e-mail addresses (iletisim@erdemir.com.tr, grupiletisim@erdemir.com.tr, info@isdemir.com.tr) on web pages, are offered. Requests, complaints and notifications received through these channels are forwarded to the related units and finalized. In addition,

communication channels required for all stakeholders to transmit to the Ethics Committee consultants and/or the Ethics Committee are provided. Transactions which contravene the regulations of the company and which are not ethical are stated in the Ethics Rules and Working Principles document published on the website.

### OYAK Mining Metallurgy Group's Stakeholders, Communication Frequency and Channels

Stakeholders	Communication Frequency	Communication Channel
<b>Employees</b>	During business hours	Working environment, meetings, in-Group TV, intranet
<b>Potential employees</b>	Periodically, in the employment process	University career days, job interviews, academic meetings, social media, corporate reputation research
<b>Customers</b>	At various points during the marketing and sales cycle	Marketing studies, fairs, direct communication, sales process, product delivery process, after-sales communication
<b>Shareholders, investors, analysts</b>	Periodically	The AGM, through Investor relations, domestic and international investor meetings, bilateral meetings, the website and other digital communication channels
<b>Suppliers</b>	Different points of the purchasing cycle	Meetings, bilateral negotiations, tenders, e-mail communication
<b>Media</b>	Different points of the work cycle throughout the year	Press releases and meetings, facility trips, social media
<b>Society</b>	Different points of the work cycle throughout the year	Communication with local people, Environmental Impact Assessment (EIA) Public Participation Meetings, social media, website
<b>Public institutions</b>	Different points of the work cycle throughout the year	Reporting studies made in accordance with the legislation, consultation and cooperation processes with the legal authority and other periodic communication
<b>Non-governmental and public institutions</b>	Different points of the work cycle throughout the year	Meetings of non-governmental organizations, cooperation platforms, membership, supported initiatives, social responsibility studies

# STAKEHOLDERS AND STAKEHOLDER RELATIONS

## Employees

OYAK Mining Metallurgy Group acts with the awareness that the biggest factor that sets itself apart is its human resources and believes in the importance of open communication in order to establish a perception of togetherness and belonging among all employees, to establish harmonious and successful teamwork and to ensure a sense of belonging.

The Group uses face-to-face interviews under the performance system as an effective tool to understand the expectations and needs of its employees. It provides a variety of tools and environments and different teamwork to suggestion systems so that they can demonstrate their creativity and potential at the highest level. It evaluates feedbacks through tools such as the Ethics Committee and the Corporate Reputation Survey.

In order to ensure that employees are aware of Group-related developments, to promote and disseminate successful activities throughout the group, to appreciate and encourage successful employees, to provide access to information that may be needed in both business and social areas, the company offers a number of tools such as printed newspapers, in-Group TV broadcasts and the company intranet. It also views social activities for employees as an important channel in strengthening their motivation and communication.

## Potential Employees

OYAK Mining Metallurgy Group is aware of the importance of new talents' contribution to the institution and ensuring the continuity of qualified human resources in order to make sure that its achievements are sustainable. In this vein, it uses various communication channels to reach university students, the

potential future human resources, and to inform them about the Group. The Group receives opinions from students, thus ensuring the effective promotion of the Group, and shares the Group's current developments over social media, traditional media and the website. The Group receives job applications through its website and continuously monitors the perception of the company through the Corporate Reputation Survey.

## Customers

OYAK Mining Metallurgy Group companies Erdemir and İsdemir provide raw materials to a wide range of businesses, each of which has its own different needs, expectations and priorities. To protect the identity of trusted and preferred suppliers both at home and abroad, Erdemir and İsdemir attach special importance to understanding the needs of different customers in order to provide customized solutions to each of them.

The fact that the sales and marketing organization has been established in a broad and dynamic structure which is specialized on sectoral basis offers an edge when it comes to meeting customer expectations and achieving customer satisfaction. Erdemir and İsdemir receive orders, expectations and feedback from customers through face to face meetings, technical trips to production facilities, and satisfaction surveys. It carries out one-to-one studies to develop new products and works in order to meet their expectations with its management systems standards.

**STAKEHOLDER PARTICIPATION IN ERDEMİR AND İSDEMİR, WHICH HAVE OPEN, HONEST AND SINCERE DIALOGUE WITH ALL OF ITS STAKEHOLDERS, INCLUDES DIFFERENT FORMATS.**

Customer complaints received through Erdemir online are examined on-site by the after-sales services unit and action is taken in the shortest possible time with the operation and quality groups for the points to be corrected. Product catalogues, technical information visits and trips to the production facilities, as well as technical training on steel and steel usage areas are provided to customers. The new projects of local and international customers using steel are supported through participation in the design phase.

With sector-specific technical trips, customers receive detailed information about the production process of the products they use, future plans, etc.

Customers are informed of current developments in the Group, successes and all matters which may concern them over the website and through social media.

#### **Shareholders, Investors and Analysts**

OYAK Mining Metallurgy Group's two publicly traded companies, Erdemir and İsdemir, are committed to establishing and maintaining open and transparent communication with all stakeholders, especially shareholders, in line with the principles of corporate governance. They manage their relationship with shareholders, investors and analysts in a manner to support brand value.

Erdemir and İsdemir respond promptly to written and verbal information requests from shareholders through the Investor Relations Department and share developments regarding special situations through the public disclosure platform as soon as possible. The report on compliance with corporate governance principles, the annual report and investor presentations which shareholders and investors may need are provided in both Turkish and English over the website. They also provide services to their shareholders by e-mail over the [investorrelations@erdemir.com.tr](mailto:investorrelations@erdemir.com.tr) e-mail address, where investors may submit questions regarding matters of interest to them. In Annual General Meetings, issues on the agenda previously shared with shareholders are resolved. Roadshows and conferences are attended and investor meetings are held.

#### **Suppliers**

Erdemir and İsdemir are aware that effective communication based on the cooperation and understanding of development together with suppliers creates value in all processes. It conducts face-to-face meetings and visits in order to understand the competences of its suppliers, to convey its own needs and to carry out the procurement process effectively. The Group uses tools such as the website, reports and social media to inform them of issues such as policies, working principles, achievements and future plans.

**ERDEMİR AND İSDEMİR ARE AWARE THAT EFFECTIVE COMMUNICATION BASED ON THE COOPERATION AND UNDERSTANDING OF DEVELOPMENT TOGETHER WITH SUPPLIERS CREATES VALUE IN ALL PROCESSES.**

# STAKEHOLDERS AND STAKEHOLDER RELATIONS

## Media

Erdemir and İsdemir see media as an important tool to effectively inform all of its stakeholders and contribute to the Group's reputation. It seeks to establish and maintain a close, open, accurate, transparent communication with media organizations.

The Group shares current and important developments through press conferences, press releases, facility trips and interviews. Through the Corporate Reputation Survey, it obtains information about the perceptions of media members about the organization.

## Society

OYAK Mining Metallurgy Group aims to develop and maintain good relations with society at large, as well as with all of its stakeholders. It carries out projects and activities aimed at meeting the expectations of society and contributing to its development. It shares information that may be needed through social media and the website. Through the Corporate Reputation Survey, the Group collects feedback on perceptions in society towards the institution regarding the activities it carries out in the country and in the regions where it operates. Moreover, the Group informs the public through EIA Public Participation meetings ahead of new investments.

## Public Institutions

OYAK Mining Metallurgy Group sustains its relations with public institutions and organizations in line with legal regulations. It shares all reports and information within the required timeframe, and attends meetings and working groups to receive the views of public institutions and organizations on various topics, or to convey its views.

## Non-Governmental and Public Institutions

OYAK Mining Metallurgy Group maintains its relations with organizations such as associations and chambers at a national level in order to develop strategic cooperation, take advantage of the knowledge accumulated in various areas and share its own knowledge and follow sectoral developments at national and international levels. It also contributes to the activities of associations working in the public interest and develops cooperation in this direction. It becomes a member of these organizations, and plays an active role in working groups, while taking part in presentations and conferences organized by NGOs and taking advantage of opportunities for sharing and learning.

## **OYAK Mining Metallurgy Group conducts open, honest and sincere communication with all of its stakeholders.**

The communication that OYAK Mining Metallurgy Group has established with its large stakeholder group and the feedback it has obtained in this context provide a highly valuable contribution in determining the corporate strategic priorities and development of business policies in addition to creating a very valuable source of information on how the Group is perceived externally, as well as in brand recognition and awareness.

**STAKEHOLDER PARTICIPATION IN ERDEMİR AND İSDEMİR, WHICH HAVE OPEN, HONEST AND SINCERE DIALOGUE WITH ALL OF ITS STAKEHOLDERS, INCLUDES DIFFERENT FORMATS.**

Stakeholder participation in Erdemir and İsdemir, which have open, honest and sincere dialogue with all of its stakeholders, includes different formats, such as the surveys that are conducted with customer groups in order to determine different needs and expectations, and periodic meetings held with employees, NGOs and shareholders.

### **Initiatives, Associations and Chambers**

The main initiatives, associations and chambers in which OYAK Mining Metallurgy 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)
- İstanbul Chamber of Industry (İSO)
- 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
- Transparency International
- Business Council for Sustainable Development Turkey (BCSD Turkey)
- Integrated Reporting Network
- Corporate Communications Professionals Association

Besides participating in TOBB's (The Union of Chambers and Commodity Exchanges of Turkey) Climate Change and Environment Committee, OYAK Mining Metallurgy Group is also a member of the Greenhouse Gas Mitigation Working Group set up by the Republic of Turkey Ministry of Environment and Urbanization.

**TO ENSURE THAT OYAK MINING METALLURGY GROUP STAKEHOLDERS CAN EASILY COMMUNICATE THEIR DEMANDS AND REQUESTS, DIFFERENT TOOLS ARE OFFERED.**

# OYAK MINING METALLURGY GROUP SUSTAINABILITY PRIORITIES



## SUSTAINABILITY PRIORITIES

**OYAK Mining Metallurgy Group categorizes its sustainability priorities under three main headings: “Economic”, “Environmental”, and “Social”.**

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

- Feedback from the units working closely with external stakeholders (customers, suppliers, etc.) given to the Sustainability Directorate of Project Management and the Group’s different management levels on sustainability,
- Wishes, expectations and opinions expressed by employees through various channels,
- Feedback received from NGOs and their representatives.

## İSDEMİR EXCELLENCE MODEL (IEM)

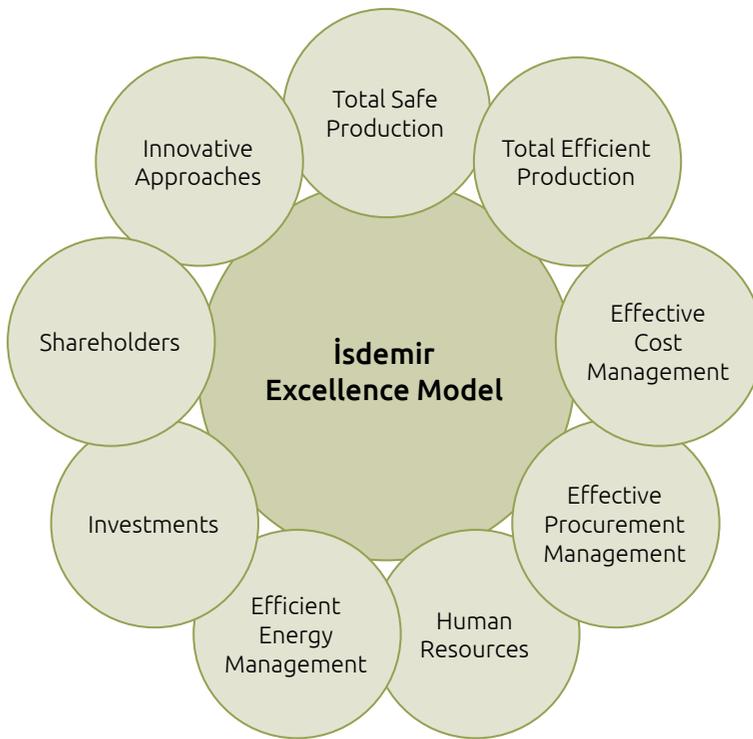
The Excellence Model (IEM), which was brought into practice for the first time on 13 July 2017 at İsdemir and then on 15 August 2018 at Erdemir, is based on the philosophy of “new thinking, innovative thinking” in sustainability.

Within the scope of the model, studies are carried out to cover the entire product value

chain. Within the scope of these studies, employees who contribute to sustainability in the teams established then evaluate the projects they have developed and consider sustainability criteria in the evaluations.

All projects carried out within the Group are integrated generally by considering their compliance with the IEM.

### The İsdemir Excellence Model consists of 9 function groups



# OYAK MINING METALLURGY GROUP SUSTAINABILITY PRIORITIES

The IEM, which is summarized in the slogan “maximizing financial value by protecting people and the Environment”, aims to place the Group ahead of the competition by drawing upon İsdemir’s intellectual knowledge accumulated from the past and by creating a corporate culture that always seeks the best with the participation of all employees.

The basic values of the IEM are as follows;

- Production without causing harm to people or the environment,
- To always seek the better in operational processes and to rapidly implement good practices,
- To use and develop all resources required for operations in the most efficient way,
- To create added value with an innovative approach, process and applications,
- To ensure that every employee participates in the success,
- To adopt the continuous improvement culture by conveying the vision-mission, policies, values, company functions, performance criteria and targets to all employees, to create an institution culture that always seeks the best in order to achieve sustainable success.

Each function group in the model consists of the Function Sponsor, Function Leader, Function Teams and Unit Teams. In line with the objectives of each function, project-based and periodical teams, consisting of both employees drawing a monthly wage and those drawing an hourly wage, are disbanded after completing their tasks. Thus, employees increase their depth of expertise by working in projects outside of their own department on subjects they are specialized on and create value for the organization.

In this context, 508 of the 774 projects implemented in the Group have been completed and the total number of teams has reached 768. The projects that have been completed are expected to generate USD 92 million.

The İsdemir Excellence Model also started to be applied in Erdemir on 15 August 2018. In this context, all 9 functions were established and 166 projects got underway. In terms of participation, gross participation reached 1,000 people and net participation reached 500 people.

In the determination of priorities, the following topics were emphasized;

- directly related to OYAK Mining Metallurgy Group's business activities,
- deemed to be important by core stakeholder groups,
- capable of having an impact on stakeholders with whom the Group interacts or might interact.

The results found from the prioritization work are targeted to be inputted to many topics such as OYAK Mining Metallurgy Group's determination of strategies in the upcoming period, improving service processes and the development of new products.

<b>Economic</b> 	<b>Environmental</b> 	<b>Social</b> 
Economic performance and profitability	Climate change and energy management	Human resources practices
Supply chain management	Waste management	Female employment and equal opportunity
Sustainability in production and investments	Water management	Corporate social responsibility
Production efficiency	Reduction of emission	Customer satisfaction
Digitalization	Life cycle assessment	Occupational health and safety
R&D and technological innovation	Environmental product declaration	
	Biodiversity	
	Compliance with environmental legislation	



# AT THE HEART OF THE ECONOMICAL CYCLE

A PRODUCT CREATING HIGH ADDED VALUE FOR  
ECONOMIC DEVELOPMENT



## ECONOMIC PERFORMANCE

### PRODUCTION AND SERVICES



#### **OYAK Mining Metallurgy Group carried its competitive clout to ever higher levels in 2018.**

OYAK Mining Metallurgy Group, which continue its modernization and improvement activities in line with its principle of high quality production, once again increased its production and productivity in 2018 and closed the year with new production records.

The Group has continued to successfully raise its competitive position by continuing the operation, maintenance and modernization activities in all of its units.

#### **Crude steel production of 9.145 million tons in 2018**

In 2018, OYAK Mining Metallurgy Group, which alone produced 25% of the crude steel in Turkey, realized crude steel production of 9.145 million tons.

The capacity utilization rate at Erdemir and İsdemir stood at 97% in 2018. The labor time spent for final product production stood at as 2.6 man-hours per ton at Erdemir and 1.8 man-hours per ton at İsdemir.

#### **In 2018, OYAK Mining Metallurgy Group realized its highest ever final flat steel product output, at 7.7 million tons.**

In 2018, Erdemir produced 4.3 million tons of flat products, including 2.6 million tons of hot steel and 1.7 million tons of cold steel. With the production of 3.4 million tons of hot products produced by İsdemir, the Group's year-end total production of flat final products reached a record 7.7 million tons.

In 2018, Erdemir and İsdemir produced 1 million tons of long final products, including 0.4 million tons of billet and 0.6 million tons of coil.

#### **Continuing to exceed customer expectations**

With its customer-focused approach, product quality and continuously developed product range, OYAK Mining Metallurgy Group

**OYAK MINING METALLURGY GROUP ONCE AGAIN INCREASED ITS PRODUCTION AND PRODUCTIVITY IN 2018 AND CLOSED THE YEAR WITH NEW PRODUCTION RECORDS.**

continued to meet the expectations of its customers at the top level in 2018 as well.

The Group also continued its investment activities aimed at reducing the dependence of Turkish industry on imports. With the commissioning of the galvanizing line in 2018, the Group will be supporting the automotive industry by domestically producing wide galvanized materials, which are vital for the sector, while at the same time it will mean materials which had been imported will now be produced in Turkey.

In 2008 the Group started the operations to establish a heat treatment plant for the production of high value added and wear resistant steels.

#### **More growth in sales volumes**

The Group carries out effective marketing, sales and distribution activities. By ensuring the desired shipment volume at the desired time, the Group remains an important ring of the supply chains of the customers by meeting the customers' demands for specially sized products through the four Steel Service Centers located in Ereğli, Gebze, Manisa and İskenderun.

Erdemir and İsdemir which sold 7.5 million tons of final products in 2018, added 18 new flat steel grades to its product range.

OYAK Mining Metallurgy Group recorded a 19.4% YoY increase in exports in 2018, exporting 1.6 million tons to 50 countries over a wide geographical area extending from South America to the Middle East and North Africa.

#### **Further continuous improvement activities carried out by Erdemir and İsdemir in 2018.**

OPEX projects, which were commissioned for the purpose of production at lower cost, extending the lifespan of equipment, energy savings, raw material optimization and improving product quality, continued in 2018.

The following training programs, supported by the Minitab® program, continued in order to expand operational excellence projects within Erdemir and İsdemir;

- Statistical Data Analysis (IVA)
- Experiment Design (DOE)
- Statistical Modeling for Managers (YIME)
- Measurement Systems Analysis (MSA)

In this context, training was provided to a total of 54 employees at Erdemir and 65 employees at İsdemir.

In 2018, Erdemir and İsdemir employees contributed to the Company by sharing their suggestions for improvement in many areas such as occupational health and safety, environmental performance, customer satisfaction and energy savings within the scope of the suggestion system application.

In 2018, a total of 16,855 suggestions were provided at Erdemir and 10,428 suggestions were implemented, amounting to 3.2 suggestions per person. At Erdemir, a total of USD 9.5 million/year in revenue was obtained from the suggestions that were tabled to the suggestion systems and whose return was calculated in 2018.

In 2018, a total of 36,628 suggestions were tabled at İsdemir and 12,006 suggestions were implemented, amounting to 7.75 suggestions per person. At İsdemir, a total of USD 8 million/year in revenue was obtained from the suggestions that were tabled to the suggestion systems and whose return was calculated in 2018.

In 2018, 1,470 kaizen were established in Erdemir and a return of USD 40.3 million/year was obtained after the completion of the 1,229 kaizen. At the 21<sup>st</sup> Quality Circles Sharing Conference, the kaizen team which contains the OHS improvement from Erdemir made a presentation. In 2018, 1,073 of the 1,624 Kaizen, which were established at İsdemir, were completed, providing USD 34 million in annual revenue.

In 2018, 310 employees were given kaizen training, 72 employees were given 5S examiner training, 108 employees were given root cause analysis training and 95 employees were given mathematical model training at Erdemir. At İsdemir, 387 employees were given kaizen training in 2018. As a result of the performance management system, training of participation tools was provided to 167 employees within the scope of the orientation.



**Supplier chain relations management at OYAK Mining Metallurgy Group contributes to both to the development of Group companies and to environmental sustainability.**

At OYAK Mining Metallurgy Group, the timely supply of raw materials, auxiliary raw materials and other consumable materials at the requested quality, which are required for production in line with the needs of the plants, is vital. Procurement processes aim to ensure that alternative products and services contribute to the development of the Group companies as well as meeting their needs and demands.

The Group's purchasing activities are undertaken by the Purchasing Units. The Procurement Units that carry out these activities, which require a multifaceted and comprehensive plan, serve as a bridge between internal customers and suppliers.

**Policy that adds value to both suppliers and the Group**

OYAK Mining Metallurgy Group, which has a diverse and comprehensive supplier portfolio, adds value to both the Group and to suppliers in the process of supplying goods and services. It aims to provide a high level of benefit in terms of cost, quality and time.

Erdemir and İsdemir take the greatest care to ensure that the sensitivity it shows to the environment is also shared by suppliers. The Group, which communicates this sensitivity to candidate suppliers, selects suppliers who respect the environment, pay attention to the environmental issues and to sustainability in all

**AT OYAK MINING METALLURGY GROUP, PROCUREMENT PROCESSES AIM TO ENSURE THAT ALTERNATIVE PRODUCTS AND SERVICES CONTRIBUTE TO THE DEVELOPMENT OF THE GROUP COMPANIES AS WELL AS MEETING THEIR NEEDS AND DEMANDS.**

transactions starting from the supplied material during the course of the procurement process and take action in this regard.

Information regarding OYAK Mining Metallurgy Group's supplier relations and strategies include the following processes:

### Supplier strategies

Within the framework of the strategies determined by the joint studies carried out with international consultancy companies, supplier classification is carried out by examining their market positions.

### Supplier application process

Purchasing transactions at OYAK Mining Metallurgy Group which exceed certain limits are published on the e-procurement platform until the end of their bidding period, in accordance with the Group's Transparency Policy.

Companies who wish to give a quotation are able to apply by filling in the required information according to the purchasing type, by entering the supplier application section on the platform.

Suppliers in the position of submitting a quotation and with whom the purchasing process is ongoing are expected to comply with the ethical values set out in OYAK Mining Metallurgy Group's corporate website during the quotation collection process.

Companies complying with the criteria are registered in the supplier portfolio once they obtain the necessary approvals. The supplier application and portfolio management processes are subjected to improvements within the scope of the supplier evaluation project.

### Main procurement categories

Purchases at OYAK Mining Metallurgy Group are carried out in the following main supply categories;

- raw materials,
- materials,
- services,
- project based work

In line with the type of purchase, many criteria are taken into consideration from the financial status of the suppliers to the number of employees, the quality certificates they hold and their capacities.

### Visits to suppliers

During supplier visits, which are conducted depending on the importance of material types, detailed investigations are carried out and every stage is observed, from the material production processes to the quality control systems.

### Efforts to expand the supplier portfolio

At OYAK Mining Metallurgy Group, activities to search for new suppliers are carried out for the products in order to ensure supply security. To this end, potential suppliers are identified through participation in sectoral conferences, fairs and events. Potential suppliers are brought to the supplier status if they achieve success in the trial period.

**THE GROUP SELECTS SUPPLIERS WHO RESPECT THE ENVIRONMENT, PAY ATTENTION TO THE ENVIRONMENTAL ISSUES AND TO SUSTAINABILITY IN ALL TRANSACTIONS.**

# SUPPLY CHAIN MANAGEMENT

## Supplier risk analysis

As sustainability in supply bears vital importance for the production cycle, the Group closely follows market developments and sector publications, and risk analysis is carried out by continuously liaising with suppliers, with action plans prepared when necessary.

Risk assessment is carried out by evaluating the impact and probability of criteria such as whether or not the supplier is the sole company, as well as the nationality, legal status, ethics, financial situation, geopolitical situation and institutional nature of each supplier.

The risk assessment of each supplier and the supplier assessment score is placed separately in the Supplier Assessment Matrix and the action to be taken is determined.

If the company does not hold an ISO 9001 Quality Management System certificate, the evaluation form prepared by Erdemir is sent to the company with a request to fill in the form. In addition, visits are conducted to the supplier and a second-party inspection is carried out if this is set out in the action plan or such a need has been identified by the management. In 2<sup>nd</sup> party inspections, the form prepared by Erdemir in accordance with the requirements of IATF 16949 Automotive Quality Management System and ISO 9001 Quality Management System is used. The company will then be notified of the result of 2<sup>nd</sup> party audits, highlighting any areas open to strong direction, advice and improvement. For areas open to improvement, corrective action shall be performed within the specified time period and evidence is expected to be submitted.

In 2018, Risk Assessment and performance scoring activities were carried out for a total of 217 suppliers and 2<sup>nd</sup> party inspections were carried out for three companies. Corrective

actions were initiated for 33 companies and 22 companies obtained the current Quality Management System certificate. The results of the studies are monitored to contribute to continuous improvement.

## Supplier performance evaluations

Supplier performances are systematically monitored at OYAK Mining Metallurgy Group. In addition to sustainability, suppliers are evaluated in accordance with supplier evaluation criteria, and are classified based on their scores.

The purchasing units assess companies which have provided the items included in the List of Materials, Equipment and Services That Directly Affect the Quality in the previous year. The supplier class and the degree of risk are determined according to the result of this assessment.

Supplier classes are divided into 4 categories: A, B, C, D.

- The Group does not work with class D suppliers,
- Improvement plans are prepared for class C suppliers,
- Verbal-written warnings are given to Class B suppliers, stipulating measures they are required to take,
- The Group continues to work with Class A suppliers without taking any action.

**OYAK MINING METALLURGY GROUP EVALUATES SUPPLIERS IN ACCORDANCE WITH SUPPLIER EVALUATION CRITERIA, AND CLASSIFIES THEM BASED ON THEIR SCORES.**

Suppliers are placed in one of the categories listed above according to their SRS score. The Supplier Rating Score consists of price, quality, delivery, and service criteria.

OYAK Mining Metallurgy Group conducted over 10,000 companies' supplier performance evaluations.

#### **Improvement activities carried out jointly with the suppliers**

Various projects are implemented in cooperation with suppliers and OYAK Mining Metallurgy Group's technical teams in order to improve material performance and reduce occupational health and safety risks.

#### **An extensive supplier evaluation list**

OYAK Mining Metallurgy Group also encourages its suppliers to apply methods aimed at the "sustainable steel" philosophy.

The Group evaluates the various criteria of suppliers with the evaluation list prepared for integrating the priority issues within the scope of sustainability strategies with the procurement processes.

These criteria include the following:

- The environment, OHS and energy management systems
- The human rights policy and the practices in this regard
- Transportation of hazardous materials
- Studies carried out regarding the environment and energy efficiency
- Capacity and references
- Sustainability strategies and determining whether or not investments have been carried out in this field

#### **Applications with regard to fuels used by ships**

One of the important applications for suppliers at OYAK Mining Metallurgy Group concerns the content of the fuel used by the ships. Within the framework of "International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI", ships must use fuels that do not contain more than 0.10% sulphur at the borders of the Emission Control Zones (ECA Zone). The sulphur content, which is set at a maximum of 3.50% for non-ECA Zones, will be reduced to 0.50% from 1 January 2020.

In the contracts which it enters into with suppliers, OYAK Mining Metallurgy Group stipulates that the ships used in operations hold certifications for their international quality and standards, such as the "International Oil Pollution Prevention Certificate (IOPP)", and that the certificates should remain valid.

**OYAK MINING METALLURGY GROUP CLOSELY FOLLOWS MARKET DEVELOPMENTS AND SECTOR PUBLICATIONS, AND RISK ANALYSIS IS CARRIED OUT BY CONTINUOUSLY LIAISING WITH SUPPLIERS.**

# PRODUCTION SUSTAINABILITY AND PRODUCTIVITY



## SUSTAINABILITY INVESTMENTS AT ERDEMİR AND İSDEMİR

Investment project decisions serving production sustainability at Erdemir and İsdemir factories were taken during 2018. These projects include renewing old systems with state-of-the-art technology taking into account today's conditions, while optimizing production and efficiency.

### **Erdemir New 2<sup>nd</sup> Blast Furnace Project**

Blast Furnaces are the plants where the liquid raw iron is produced for the steel production in the integrated iron and steel factories. The project will assure the continuity of the production of liquid crude iron through the renewal of the 2<sup>nd</sup> Blast Furnace. The new 2<sup>nd</sup> Blast Furnace will have the same volume (1,850 m<sup>3</sup>) as the 1<sup>st</sup> Blast Furnace.

### **Erdemir New Sinter Plant Project**

Sinter Plants enable the recycling and utilization of materials such as small scale but economical small or medium sized fine ores, pellet and undersize ore materials, steel slag, scale, flue dust and coking duff in blast furnaces which cannot be used in the Blast Furnaces. The project will bring savings in the cost of raw materials and fuel usage in the Blast Furnaces. Moreover, the project aims to produce an additional 6 tons/hour of steam with the Circular Refrigerant Waste Heat Boiler to be installed. With the Desulphurization Facility to be established, the SO<sub>x</sub> emissions at the Sinter Plant will be reduced.

**ERDEMİR NEW SINTER PLANT PROJECT AIMS TO PRODUCE AN ADDITIONAL 6 TONS/HOUR OF STEAM WITH THE CIRCULAR REFRIGERANT WASTE HEAT BOILER TO BE INSTALLED.**

### **Erdemir 4<sup>th</sup> Coke Battery and Secondary Product Facilities Modernization Project**

Coke batteries are the plants where the coke used as fuel is produced in blast furnaces. The raw coke gas released during the coke production is cleaned and the production of by-products (tar, benzoyl, etc.) and coke gas is carried out at the Secondary Product Facilities, which are located at the end of the batteries. Erdemir's self-sufficiency will be assured in the coke production with the 4<sup>th</sup> Coke Battery to be established within the scope of the project. Thanks to the use of the additional coke gas which will be produced in the production facilities, the amount of natural gas consumed in these facilities will be reduced. Additional by-products (benzoyl and tar) will be produced. In addition, the new technologies will allow coke production to be maintained with lower emissions and higher energy efficiency.

### **Erdemir 60 MW Turbo Generator and No. 6 Steam Boiler**

The No. 6 Steam Boiler project aims to produce steam by maximizing the use of blast furnace gas more efficiently. The firm providing the technology continues to carry out engineering work. The New 60 MW Turbo Generator Purchase Project aims to increase the operational security in electricity generation. Proposal evaluation studies for the project are ongoing.

### **Erdemir Environmental Investment Projects**

At Erdemir, Environmental Investment Projects are carried out in order to carry out in all processes in accordance with the law, creating value for stakeholders, with a responsible and accountable management approach.

### **İsdemir 3<sup>rd</sup> Coke Battery Modernization**

The project will enable coke production to continue safely with lower emissions and higher energy efficiency. After the dry quenching process of the coke to be produced in 3<sup>rd</sup> Coke

Battery, it will be possible to produce 40 tons of steam per hour (or equivalent electricity) from the waste heat which cannot be utilized in the present situation.

### **İsdemir New Sinter Plant Project**

The project will pave the way for savings in the cost of raw materials in the blast furnaces. The Desulphurization facility will pave the way for a reduction in SOx emissions generated from the Sinter factory.

### **İsdemir New 1<sup>st</sup> Blast Furnace**

Within the scope of the project, the decision was taken to construct a new Furnace with a volume of 3,000 m<sup>3</sup> at the location of the 1<sup>st</sup> Blast Furnace with its 1,218 m<sup>3</sup> volume, instead of relining work at the 3<sup>rd</sup> Blast Furnace. The investment in the New 1<sup>st</sup> Blast Furnace, it was aimed to prevent the loss of production that would occur if the 3<sup>rd</sup> Blast Furnace was relined, while boosting sales revenues thanks to the increase in final product quantities that will come on the back of the increase in the furnace volume.

### **İsdemir Environmental Investment Projects**

The Environmental Investment Package, which was set up to support the execution of all processes in accordance with the regulations, with a responsible and accountable understanding of management, that creates value for all stakeholders, was completed.

**INVESTMENT PROJECTS AT ERDEMİR AND İSDEMİR INCLUDE RENEWING OLD SYSTEMS WITH STATE-OF-THE-ART TECHNOLOGY TAKING INTO ACCOUNT TODAY'S CONDITIONS, WHILE OPTIMIZING PRODUCTION AND EFFICIENCY.**



The OYAK Mining Metallurgy Group not only ensures the continuity of production by carrying out new investments, it also develops optimizations that affect external stakeholders by developing improvement projects in existing processes.

#### **Alloy Studies**

2018 was a year of significant challenges in the pricing and supply of some alloy materials. In this context, the OYAK Mining Metallurgy Group stepped up production of steel grades with the use of alternative alloys, since alloy prices increased 4-5 fold on the back of global

**OYAK MINING METALLURGY GROUP DEVELOPS OPTIMIZATIONS THAT AFFECT EXTERNAL STAKEHOLDERS BY DEVELOPING IMPROVEMENT PROJECTS IN EXISTING PROCESSES.**

developments, giving rise to significant supply shortages. Thanks to the 19 projects carried out at Erdemir and İsdemir, USD 10 million savings were achieved in alloy costs.

#### **İsdemir Slab Length Optimization**

The OYAK Mining Metallurgy Group improved productivity by 8% with the transition to variable size-fixed tonnage practice in the slabs produced in İsdemir plants, enabling production at the rolling mill to be increased at the 200-250 kton level.

#### **Lightening Work with the Manufacturing Sector**

More efficient use of resources has been achieved, especially in the automotive and white goods sector with the work on the reduction of thickness. Customers are becoming more competitive thanks to the thickness reduction work on commercial vehicle chassis and galvanized materials used in the automotive industry, and packaging steel. Coating and thickness reduction efforts will continue in 2019 as well.

#### **Erdemir Romania Process Improvement Work**

A transformation project is being carried out at the OYAK Mining Metallurgy Group's factory in Targovishte. Production and business processes and the automation infrastructure of the factory producing electrical steel have been renewed and harmonized with Group applications. In the project, process experts from Erdemir, İsdemir and Erdemir Mühendislik carried out visits to the Romanian factory and carried the Group synergy to higher levels through mutual learning and application comparison methods, and modernized the factory within the scope of process improvement studies and digitalization projects.

# USD 10 MILLION

WITH PROJECTS CARRIED OUT AT ERDEMİR AND İSDEMİR, USD 10 MILLION SAVINGS WERE ACHIEVED IN ALLOY COSTS.

# DIGITALIZATION



**In 2018, OYAK Mining Metallurgy Group carried out numerous digitalization projects and renewed its business processes in order to provide its employees and stakeholders with an improved and more efficient experience.**

With the completed projects, employees adopt the concept of “New Thinking, Innovative Thinking” contributing to systematic and continuous process projects, and evaluate the value chain as a whole.

Project-driven processes reduce risks in the product value chain, adapt employees to the digital age, and increase productivity and added value in business processes.

**IN 2018, OYAK MINING METALLURGY GROUP CARRIED OUT NUMEROUS DIGITALIZATION PROJECTS AND RENEWED ITS BUSINESS PROCESSES.**

## INTEGRATED AUDIT SYSTEM PROJECT

**The Integrated Audit System project enabled OYAK Mining Metallurgy Group to carry out audit activities through software and ensured continuous audit and control mechanisms.**

While the biggest losses experienced by corporations worldwide are a result of strategic risks, traditional audit approaches devote most of their resources to examining operational, financial and compliance risks.

The Integrated Audit System was commissioned in 2018 in order to automate the examination of routine risks and checkpoints by the OYAK Mining Metallurgy Group Internal Audit Unit and to direct the resources of the audit unit to high value added consultancy activities and dealing with strategic risks. The system ensured that audit activities were carried out through software, and a continuous audit and control mechanism was established.

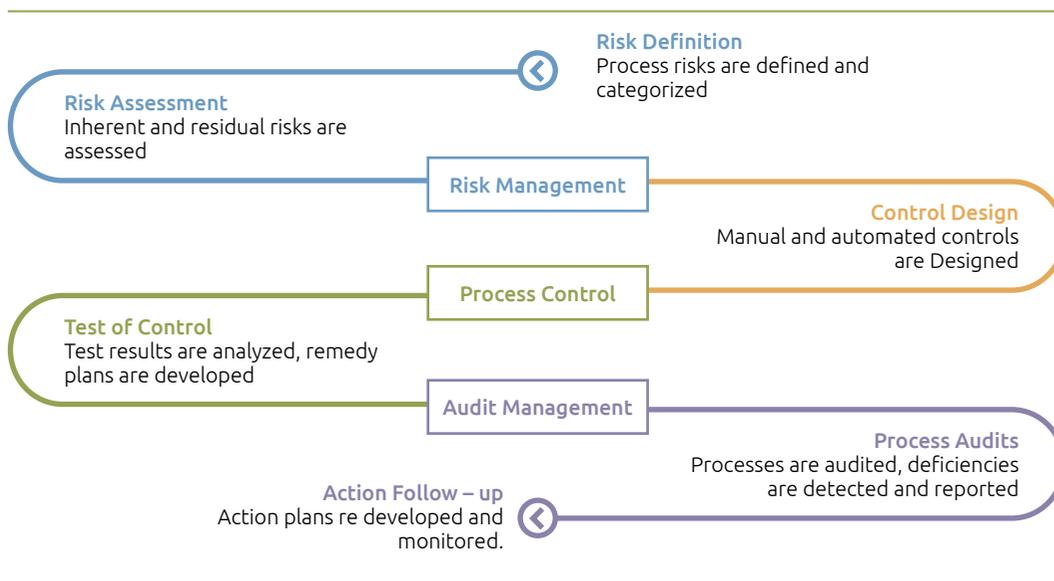
Within the scope of the project, SAP GRC Risk Management, Process Control and Audit Management modules were commissioned. In addition to Internal Audit Unit, Information

Technologies and key module users took part in the project.

The OYAK Mining Metallurgy Group Internal Audit Unit adopts risk based audit methodology. In this context, first of all, risks related to the audited process are determined and entered into the risk management system.

After the internal controls applied by those responsible for the processes for these risks are examined and tested for effectiveness, the Residual risk level is assessed. The results of the risk assessment are examined by the audit team on the risk map. The findings for the identified control Weaknesses are generated in the system and actions are determined by those responsible for the processes in order to eliminate these findings.

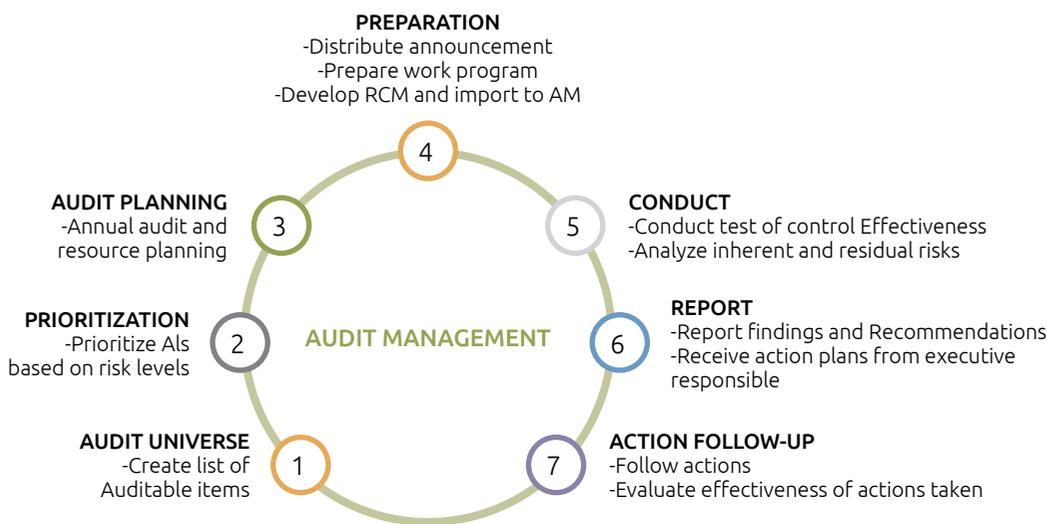
Another module in the project is Process Control. Automatic control/Business rules were established in the process control module and a continuous monitoring mechanism was established. Thanks to automatic controls and continuous monitoring, internal audit work has become more proactive.



Another module of the project is Audit Management commissioned within the scope of the project was Audit Management. After the Audit Management System was put into practice, audit activities started to be carried out on the SAP Audit System and audit findings and actions were monitored more systematically. The automatic notifications sent

by the system have enabled action tracking and corrective actions have been carried out on time. As a result of automatic generation of audit reports by the system as a project output, it is possible for the audit team to allocate their time to higher added value activities.

## Integrated Audit System Workflow



## DIGITAL HUMAN RESOURCES PROJECT

**In line with the high level of importance and priority which the Group places on human resources and technology, the OYAK Mining Metallurgy Group introduced its first human resources transformation program in 2018 and launched its first modules.**

The first outputs of this process which we set out on with the aim of development and consolidation of different approaches, processes and infrastructures for human resources processes in the Group companies, the creation of standard approaches and the creation of a user-friendly, flexible and scalable

common digital infrastructure, the “Employee Information” and “Performance Management” systems were commissioned by the end of 2018.

With these systems, whose source codes are entirely owned by the Group, significant gains have been achieved in operational efficiency as well as the management of human resources processes with more accurate, holistic and accessible data.

**OYAK MINING METALLURGY GROUP INTRODUCED ITS FIRST HUMAN RESOURCES TRANSFORMATION PROGRAM IN 2018 AND LAUNCHED ITS FIRST MODULES.**

Within the scope of the program, the Group aims to maximize human resources process and system maturity by implementing the “Selection, Placement and Organization

Management”, “Talent Management”, “Job Evaluation, Wage and Side Benefits Management” and “Employee Development” systems by the end of 2019.



## RAW MATERIAL SUPPLY PLANNING SYSTEM PROJECT

### Working to a goal of digitizing raw material planning work processes and optimizations

The OYAK Mining Metallurgy Group is implementing a new project to digitize raw material planning work processes and optimizations. The project is aimed at optimizing all the raw materials that generate inputs to the product value chain, to improve the processes and to carry out all related operations on a digital platform.

Within the scope of the project, all of the Group’s internal stakeholders - in Business, Purchasing, IT, and Sales - contribute to the simplification of the processes and proactive measures are taken to tackle any risks that may arise by reducing the margin of error in the optimizations. In the project, which contributes to the corporate memory, the Group’s purchasing planning is adapted to today’s digital conditions, ensuring the sustainability of the related work on the basis of production and work efficiency.

## OYAK MINING METALLURGY GROUP IS IMPLEMENTING A NEW PROJECT TO DIGITIZE RAW MATERIAL PLANNING WORK PROCESSES AND OPTIMIZATIONS.

## SUPPLIER EVALUATION PROJECT

### Targeting more effective and efficient management of the supply chain

In order to manage the supply chain more effectively and efficiently, OYAK Mining Metallurgy Group commissioned the Supplier Evaluation Project, consisting of two phases.

Supplier Application and Repertory Management, the first phase of the project, it is aimed at reviewing the qualifications of suppliers who will apply through the Group purchasing platform in order to be the supplier in the first stage, and to register those firms who possess the necessary qualifications as approved or potential suppliers to the repertoires of the relevant establishments.

In addition, the project also aims at ensuring that suppliers of different types of products and services are pre-evaluated according to the different criteria depending on the needs of the enterprises, and that existing suppliers are able to apply for different product groups through the platform.

In line with the principle of transparency and controllability, the project will ensure that all transactions related to suppliers and the selection of suppliers in the bid collection process shall be monitored and approved.

The supplier performance management phase, which is the second phase of the project, has the following aims;

- evaluate the performance of the suppliers of different products and services according to the criteria of the units requiring them,
- classify suppliers according to the performance results and to determine the actions to be taken,
- determine any necessary development plans according to the scores reached at the end of the evaluation,
- promote the development of suppliers and increase the product and service quality by carrying out joint projects with the suppliers.

## PROJECT 660

### A customer-oriented smart project aimed at serving the goals of the OYAK Mining Metallurgy Group

Project 660, one of the key sub-headings in the digital transformation, has two layers of coverage in parallel with the target of a customer-oriented and smart OYAK Mining Metallurgy Group.

**SUPPLIER EVALUATION PROJECT WILL ENSURE THAT ALL TRANSACTIONS RELATED TO SUPPLIERS AND THE SELECTION OF SUPPLIERS IN THE BID COLLECTION PROCESS SHALL BE MONITORED AND APPROVED.**

In the first layer, which includes the agility and updating of all sales and shipment processes that involve contact with customers, the aim is create flexible processes that allow easy and rapid access to information, including the quality design and product identification processes.

In the second layer, the modernization of the existing technological infrastructure is realized. PROJECT 660 will be developed on a new architecture which will overcome the systemic constraints and keep up with the latest trends in technology, aiming to provide a productive system compatible with mobile platforms that will be able to provide flexible reporting from August 2020.

## PURCHASING DIGITALIZATION PROJECT

### **Transparent, controllable, traceable purchases on a digital platform**

The main objective of the project is to render all purchasing processes transparent, controllable and traceable on a digital platform and, furthermore, to ensure that all communication can be carried out through the system. Another objective is to contribute to the environment

by curtailing paper consumption and printing operations by transferring all processes to electronic media rather than taking the outputs of various media transactions and archiving them in files.

As of the end of 2018, 77% of the purchases in terms of the number of purchase orders were carried out through the Group purchasing platform. Starting with the purchase of materials in the first place, the use continued over time in order to collect proposals for road logistics purchases, domestic scrap purchase units and the Finance Group.

The target of the project for 2019 has been determined as the collection of proposals of all purchasing units from domestic and foreign suppliers (rather than partial purchase transactions), to carry out technical and commercial evaluations, to deliver orders integrated with SAP after being created on the SAP and once the required approvals have been obtained, and to carry out the supplier's approval processes over the digital purchasing platform.

**THE MAIN OBJECTIVE OF THE PURCHASING DIGITALIZATION PROJECT IS TO RENDER ALL PURCHASING PROCESSES TRANSPARENT, CONTROLLABLE AND TRACEABLE ON A DIGITAL PLATFORM.**



**Brought to the sector by OYAK Mining Metallurgy Group and the first R&D Center to have been approved by the Ministry, the Erdemir R&D Center continues to operate successfully.**

Erdemir's R&D Center, the first in the Turkish steel sector and approved by the Ministry of Industry and Technology on 26 August 2014, aims to meet the increasing needs and expectations of its customers with innovative solutions.

In line with this goal, work is carried out to produce competitive, new products with high added value at reasonable cost, while searching for alternative raw material resources, identifying alternative materials and technologies that reduce costs and ensuring raw materials and energy resources can be used more efficiently.

In 2018, more competitive products were offered to the market by achieving a cost

advantage through improvements made to the production processes by the R&D Center that successfully passed the 3<sup>rd</sup> year audit by the Ministry. In addition, work to recover waste emerged in the production processes continued successfully.

In 2018 a total of 30 projects have been completed in the R&D Center, which operates under four main groups; Hot Products and Processes, Cold Products and Processes, Steel Production and Casting Technologies, and Raw Materials and Iron Production. Work on an additional 31 projects is currently ongoing.

**AT ERDEMİR'S R&D CENTER, WORK IS CARRIED OUT TO PRODUCE COMPETITIVE, NEW PRODUCTS WITH HIGH ADDED VALUE AT REASONABLE COST, WHILE SEARCHING FOR ALTERNATIVE RAW MATERIAL RESOURCES.**

### **Infrastructure work stepped up at Erdemir R&D center in 2018.**

At the Erdemir R&D installation and assembly work on the experimental sinter simulator, for which the purchase process has been finalized, was completed in 2018. Numerous blend modeling studies will be carried out through this simulator which will enter operation shortly. At the same time, a vibrating sieve, crusher, drum, mixer, pelletizing drum and fragmentation test instruments, which form the auxiliary test equipment of the simulator, were brought into the infrastructure of the "Raw Materials and Iron Production Simulation Laboratory".

The process of purchasing the coke test oven, which will enable mass equivalence studies of coke by-products, continues.

The installation and assembly work of the 150 kg capacity vacuum induction furnace and 350 kg capacity open induction furnace, which were purchased in melting and casting laboratories, has been completed.

Installation and commissioning of the hot-dip galvanizing simulator was carried out in 2018. This simulator is capable of coating high performance heating, annealing, cooling and hot dipping in different chemical compositions and working under the same atmospheric conditions as industrial continuous galvanizing lines.

With this simulator, which is actively used in existing product improvement and new product development studies, Erdemir's continuous galvanizing lines will be optimized with innovative process parameters. The hot-dip galvanizing simulator will shorten the duration of R&D studies as well as limiting production losses by minimizing the number of trials to be performed on the field scale.

Furthermore, the cold rolling simulator, for which installation work started in the last quarter of 2018, is expected to be completed in the first 6 months of 2019.

Detailed engineering works of the hot rolling simulator were completed in July 2018 and field installation work is planned to start in the first half of 2019. The equipment is scheduled to be commissioned at the end of the year.

The entire simulation infrastructure of Erdemir R&D Center is slated for completion in 2019.

### **High-level laboratory equipment commissioned.**

The installation of the device, which has been purchased in order to obtain more detailed analysis of the residues affecting the properties of steel (such as elemental property, size, type, type and distribution) in the steel production process and to obtain detailed information concerning steel cleaning, has been completed and analytical work has got underway. A "Spectral Analysis and X-ray Laboratory" and a "Sample Preparation Laboratory" has been established, including X-ray diffraction and X-ray fluorescence spectrometer devices, which will carry the depth and quality of the material characterization studies to higher levels. All devices have been activated.

A pilot-scale autoclave was installed into the technical infrastructure of the Erdemir R&D Center for the purpose of carrying out slag aging studies to enable the use of steel slag in highways, and it was commissioned. The laboratory gained the ability to measure the expansion behavior of slag according to relevant standards.

Water jet, wire erosion devices and Brinell hardness devices have been added to the laboratory infrastructure for the development of high-strength heat-treatable steels and advanced high-strength steels. On the other hand, with the provision of additional equipment and test apparatus for the devices in the metal forming laboratory, the skills related to coating and coating thickness measurements were acquired and springback tests were performed.

An experimental enamel coating system was created to determine the coating properties of Erdemir enameled steel grades, the development of new steel qualities with high coating performance for the needs of the white goods sector, and customer-oriented joint projects.

**Erdemir R&D Center, which closely follows the technological developments, attaches great importance to the training of its employees.**

Attaching importance to continuous development of employees Erdemir R&D Center continues its training activities in light of current technological developments. In 2018, 24 training programs were offered in different technical subjects, which were tailored to the needs of employees. The employees were encouraged to continue their doctoral and post-graduate studies. The R&D Center completed the year 2018 with a total of 52 employees including two employees with a doctorate, 11 doctoral students, 10 employees with a post graduate degree, five postgraduate students, 13 employees with a bachelor's degree, one associate degree student and six employees with an associate degree or high school education.

R&D Center employees participated in mining and metallurgy sector in events organized in the national/international arena during 2018, with a total of six new articles/declarations, all of which were in international events. The Erdemir R&D Center contributed to the promotion of the Group and accumulation of intellectual capital by participating in a number of events with a total of 58 articles/declarations after approval by the Ministry. Forty-six of the declarations were given in international events.

**Life Cycle Assessment studies continuing in Erdemir & İsdemir processes**

**Life Cycle Assessment (LCA)**

An Erdemir and İsdemir Life Cycle Analysis (LCA) working team was set up in 2018. The team formed by the Sustainability Directorate and the R&D, Environment and Occupational Health and Safety departments report the product life cycle analysis to the Board of Directors on a monthly basis within the scope of actions and targets through modeling carried out specifically for the Erdemir process.

Within the scope of its approach to sustainable steel production, the studies conducted with Life Cycle Analysis (LCA) methodology continued in 2018. Following the completion of the Clean Production Practices in the Blast Furnace Process, Sinter Factory LCA Modeling was performed and the production parameters between 2015 and 2018 were also examined. Suggestions for improvement were tabled by calculating the GWP (Global Warming Potential), AP (Acidification Potential) and EP (Eutrophication Potential) of the Sinter Plant, with priority given to bringing down SO<sub>2</sub> emissions. In line with data for the first six months of 2018, it was demonstrated that sinter production had reached a production potential with emissions below global average values.

**Five registered patents/utility models in OYAK Mining Metallurgy Group**

In 2018, six patents and three utility model applications were tabled in response to invention proposals from Group employees. The registration process of a total of 20 applications, including nine patents/utility models for which applications were submitted, is continuing.

**THE ERDEMİR R&D CENTER CONTRIBUTES TO THE PROMOTION OF THE GROUP AND ACCUMULATION OF INTELLECTUAL CAPITAL.**

On the other hand, five of the projects, for which applications have been submitted since 2014 within the scope of the TÜBİTAK TEYDEB 1501 Industrial R&D Projects Support Program, were successfully completed. The activities continue for the three projects for which the decision was taken to give support.

#### **Erdemir laboratories continuing to work in accordance with TS EN ISO/IEC 17025 standard**

Erdemir Test Laboratories completed their Participation in Proficiency Tests, Internal Quality Control and Measurement Uncertainty studies within the scope of the TS EN ISO/IEC 17025 standard technical requirements, related to the tests/analyses to be applied for expansion of their scope in 2019, in the TÜRKAK document renewal audit.

Following the TS EN ISO/IEC 17025 standard re-certification audit at the end of 2017, the Erdemir Calibration Center was granted the new accreditation certificate valid for a further 4 years on 15 March 2018. TÜRKAK will conduct checks every year to ascertain whether compliance with the audits has been maintained. In addition to the existing coverage, accreditation expansion audits will be carried out in the areas of Scale Calibration (Euramet cg.18) and Stove-Furnace Calibration (Euramet cg.20) during 2019.

### **PRODUCT DEVELOPMENT WORK**

#### **Increasing the number grades with new products developed by the OYAK Mining Metallurgy Group**

##### **Producing for the Wind Power Market**

One of the most strategic issues in Turkey's energy market is the increase in the number of wind farms and environmentally friendly energy production.

OYAK Mining Metallurgy Group started to produce plates to be used in wind farm projects and realized 25,000 tons of wind farm plate sales in 2018.

The Group aims to sell 50,000 tons, contributing to the competitiveness of domestic producers in international markets.

In 2018, OYAK Mining Metallurgy Group was the approved supplier of global firms operating in Turkey in the wind power market, such as Siemens, Gamesa, Vestas, GE, Enercon, Nordex, Leitwind and EWT.

#### **Quality improvement work for X60 and higher grades in international API projects**

Thanks to the work carried out within the OYAK Mining Metallurgy Group, the Group's share in oil and gas pipeline projects carried out both in Turkey and abroad increased. Sales for petroleum/natural gas pipeline projects, which stood at 280,000 tons in 2017, increased to 420,000 tons. The BRUA Pipeline in Europe and Turkey, the Turk Stream, Eurostream and numerous project sales to BOTAŞ were particularly effective in this increase. The Group tripled its sales of X60 and higher grades, which were imported from abroad.

#### **Development of heat treatment steels**

In 2018, work on the heat treatment steel production plant, which is planned to be established within the OYAK Mining Metallurgy Group, continued. In this context, New grades related to this product group for which critical sectors such as construction and defense in Turkey are completely dependent on imports were developed, and tests in several laboratories both domestically and abroad were successfully carried out. In 2019 the Group will continue its development activities in this product group that is of utmost strategic importance.



# GREEN TECHNOLOGIES

AN ENVIRONMENTAL AND VALUABLE  
PRODUCT WITH KEY ROLES IN BUILDING A  
SUSTAINABLE WORLD



## ENVIRONMENTAL PERFORMANCE

### ENVIRONMENTAL APPROACH AT OYAK MINING METALLURGY GROUP



**OYAK Mining Metallurgy Group shapes their production activities in the light of sustainability criteria. Renewable energy, energy efficiency and environmental investments are always at the forefront of the Group's approach.**

The corporate culture of OYAK Mining Metallurgy Group is unwaveringly devoted to working responsibly towards protecting the environment, to use existing resources effectively, efficiently and correctly, to benefit from communication channels in the name of development and awareness of all stakeholders, and to constantly develop environmental performance in order to pass on a cleaner and more livable world to future generations.

The Group aims to increase effectiveness in the use of resources, to reduce waste, to act appropriately when it comes to recycling at every stage of the activity cycle, and to protect and improve human capital.

OYAK Mining Metallurgy Group demonstrates its contribution in efforts to tackle global climate change and to resolve environmental problems by assuming responsibility for the sustainable future of the world as well as Turkey's and by taking appropriate steps accordingly.

**OYAK MINING METALLURGY GROUP DEMONSTRATES ITS CONTRIBUTION IN EFFORTS TO TACKLE GLOBAL CLIMATE CHANGE AND TO RESOLVE ENVIRONMENTAL PROBLEMS BY ASSUMING RESPONSIBILITY FOR THE SUSTAINABLE FUTURE.**

Focusing on investment projects that will provide protection of the environment and mitigate the adverse effects of climate change, the Group conducts this process in accordance with an approach which is fully compliant with laws and legislation, and which is responsible, transparent, accountable and adds value to its stakeholders, with the most advanced assessment, management and monitoring methodologies.

### **The Environmental Management System at Erdemir and İsdemir**

A high level of sensitivity with regard to environmental awareness and environmental issues are among the key elements of OYAK Mining Metallurgy Group's business principles.

Given that environmental sensitivity and responsibility form an integral part of how it has conducted business for many years, the Group has developed its environmental approach into a systematic structure that is open to international audit with the Environmental Management System.

As a holder of the TS EN ISO 14001 Environmental Management System Certificate, Erdemir and İsdemir carry out detailed activities to ensure that the environmental policy, which it determined within this scope, is adopted by all employees.

Erdemir and İsdemir Environmental Policy is based on the following pillars:

- Within the scope of its approach to sustainable development, to implement technologies which cause the least amount waste to the environment in accordance with technical, economic and commercial evaluations and to protect natural resources with effective and efficient use of the raw materials,
- To monitor, assess and continuously improve the environmental impact of processes in order to continuously improve environmental performance,
- To reduce waste at the source, to improve and encourage recovery, to collect and dispose of waste,
- To inform and raise awareness of OYAK Mining Metallurgy Group's perspective on the environment, its applications and the outcomes it obtains among its social stakeholders including employees, customers, suppliers, society and the state, and to establish open communication.

OYAK Mining Metallurgy Group believes that high quality production is possible only with efficiency, effectiveness, recovery, zero accidents, environmental sensitivity and savings.

**OYAK MINING METALLURGY GROUP HAS DEVELOPED ITS ENVIRONMENTAL APPROACH INTO A SYSTEMATIC STRUCTURE THAT IS OPEN TO INTERNATIONAL AUDIT WITH THE ENVIRONMENTAL MANAGEMENT SYSTEM.**

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT



## **The Environmental Management Process**

OYAK Mining Metallurgy Group successfully includes environmental factors that are important for the steel sector in its management strategies in accordance with the legislation in the country and in line with international developments.

In line with the philosophy of continuous improvement and sustainable development, the Group has an Environmental Management Process, which includes the Environmental Management System.

The Environmental Management Process is a continuous cycle and starts with the feasibility reports of the investments to be carried out and the equipment to be installed in all the Group plants. The process continues throughout the life of the plant, where the

environmental impact is kept at a minimum and which complies with environmental legislation, and ends with the decommissioning of the plant when it has reached the end of its operating life, in accordance with the legislation.

The effectiveness and success of the OYAK Mining Metallurgy Group Environmental Management Process is monitored and evaluated by the Process Management Team working in coordination with the Environmental Management Units. The environmental objectives set out in the Group's strategic

**THE ENVIRONMENTAL MANAGEMENT PROCESS IS A CONTINUOUS CYCLE AND STARTS WITH THE FEASIBILITY REPORTS OF THE INVESTMENTS TO BE CARRIED OUT AND THE EQUIPMENT TO BE INSTALLED IN ALL THE GROUP PLANTS.**

business plans are cascaded down to individual targets and, therefore, spread throughout the organization.

The Process Management Team plays an important role in the implementation of improvement work and projects, which are determined according to the evaluation results, when decisions are made on the issues.

### **The Environmental Performance Index**

The Environmental Management Process is an original management model developed by OYAK Mining Metallurgy Group. The "Environmental Performance Index" which expresses the success and effectiveness of the Environmental Management Process in a single numerical indicator, also allows a comparison of past and present environmental performances.

The OYAK Mining Metallurgy Group Environmental Performance Index was prepared on the basis of the following criteria:

- To correctly define the impacts arising from production, products and services correctly,
- To demonstrate the sustainability of the Environmental Management System,
- To evaluate the impacts of the Group plants on the receiving environment in the regions where the plants are located,
- To include data concerning the environment at the local, national, or international level.

Erdemir and İsdemir Environmental Performance Index, which is calculated on the rates at which targets were achieved under three basic parameters - Permit and License Document, Legislation Compliance and Success Criteria - is reviewed by the Process Management Team. These parameters are continuously monitored and evaluated together with their breakdowns.

In line with this process carried out in the Group, the environmental performance is reported to the upper management. After the review by the upper management, environmental factors prioritized by the sector are included among the management strategies of OYAK Mining Metallurgy Group in accordance with legislation and international developments.

The Environmental Performance Index also enables employees to adopt environmental goals, internalize them and see the environmental goals as a target.

### **The Environmental Performance Index**

#### **Environmental Permit and License Certificate**

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

- Recycling and disposal of minor and hazardous wastes in compliance with legal regulations
- Wastewater Analysis
- Emission Measurements
- EIA (Environmental Impact Assessment) Documents

### **Carriage of Dangerous Goods by Road-adaptation to ADR**

#### **Success Criteria**

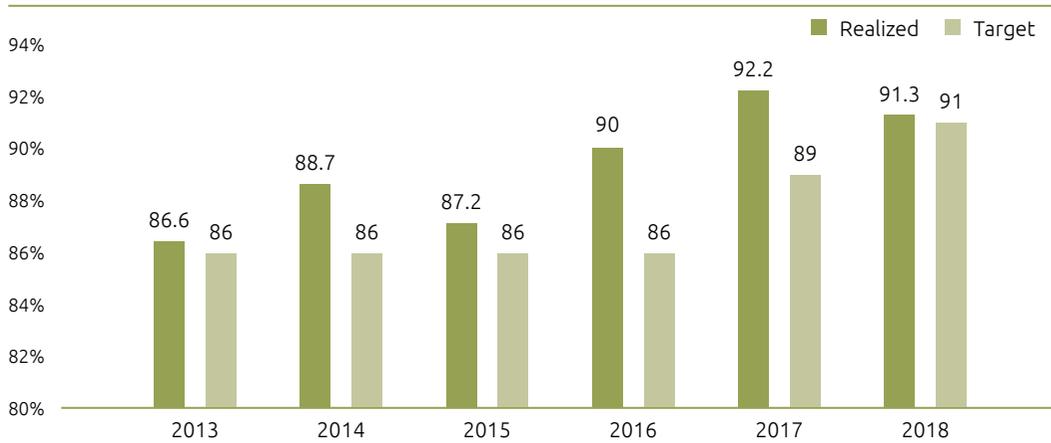
- Water Management and Recirculation Water
- Solid Waste Recovery Rate
- Sustainability of the TS EN ISO 14001: 2015 certification
- Environmental Investments
- Training and Social Activities

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT

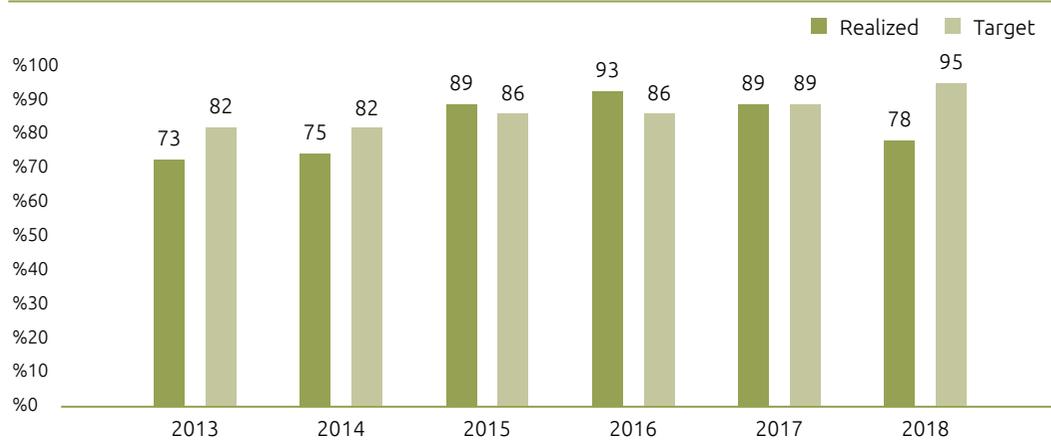
The OYAK Mining Metallurgy Group takes initiatives and conducts comprehensive studies to systematically reduce its direct and indirect effects on the environment.

## Environmental Performance and Realization Status of Sustainability Goals

### Erdemir Environmental Performance Index



### İsdemir Environmental Performance Index



### Erdemir Environmental Performance Index for 2018

Criterion	2015 Actual Realization (%)	2016 Actual Realization (%)	2017 Actual Realization (%)	2018 Targets (%)	2018 Actual Realization (%)
Compliance with Environmental Legislation	100	100	100	100	100
Recirculation Water Ratio	91.6	92	92	91	92.5
Solid Waste Recovery Rate	72.1	72.3	80.1	80	86.4
<b>Sustaining TS EN ISO 14001:2015 Management System Activities</b>					
Actual Realizations of the Targeted Environmental Investments	100	100	100	100	100
Sustaining TS EN ISO 14001:2015 Certificate	100	100	100	100	100

### İsdemir Environmental Performance Index for 2018

Criterion	2015 Actual Realization (%)	2016 Actual Realization (%)	2017 Actual Realization (%)	2018 Targets (%)	2018 Actual Realization (%)
Compliance with Environmental Legislation	100	100	99.06	100	100
Recirculation Water Ratio	95.5	95	94.64	94.7	94.79
Solid Waste Recovery Rate	57.2	57.7	59.71	58.5	56.31
<b>Sustaining TS EN ISO 14001:2015 Management System Activities</b>					
Actual Realizations of the Targeted Environmental Investments	100	100	38	100	100
Sustaining TS EN ISO 14001:2015 Certificate	100	100	100	100	100

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT

## • Environmental Permit and License Certificate

The validity of Erdemir and İsdemir's Environmental Permit and License Certificate, which was obtained from the Ministry of Environment and Urbanization in 2015, on Wastewater Discharge, Air Emission, 1<sup>st</sup> Class Organized Storage, Waste Acceptance Facility and Non-hazardous Waste Recovery, was extended in 2018.

## • Compliance with Environmental Legislation

Erdemir and İsdemir closely monitors the realization rates of waste water analysis, emission values, waste disposal methods, legislation compliance and the Environmental Impact Assessment of investments. Some of the activities that the Group has undertaken within this scope are listed below:

### Solid Waste Recovery Rates

OYAK Mining Metallurgy Group aims to generate economic value and save natural resources by recovering all wastes released from its processes.

The Group conducts various activities aimed at minimizing waste output and maximizing recovery rates. Waste that cannot be recycled is given to authorized companies within the framework of the laws and regulations.

In 2018, a solid waste recovery rate of 86.4% was achieved at Erdemir and a 56.31% solid waste recovery rate was achieved at İsdemir, by delivering minor and hazardous waste for recovery and to companies producing alternative fuels from solid waste, as well as by using some of the waste as raw materials.

As a result of sending waste on the minor waste site for recovery, a total of TL 2,471,930 of resource efficiency was realized at Erdemir and TL 8,804,977 at İsdemir.

A total of 332,000 tons of raw material was saved in the sinter plants in 2018 at Erdemir, by using 452,111 tons of waste material. The monetary equivalent of the resources saved amounted to about USD 10.6 million.

At İsdemir, on the other hand, 281,717 tons of raw materials were saved by using 253,485 tons of waste material.

In addition, in 2018, it was made possible for the wastes to be taken into the by-product category or to be used as raw material alternative in other industries by obtaining the certificates of conformity with TSE standards.

In the scope of the by-product certification work at Erdemir, the surveillance audits of tar, iron oxide and steel slag which were certified to TSE standard and passed into the by-product category were completed and the decision was taken to continue the documentation.

With the letter prepared by the Ministry of Environment and Urbanization dated 25 September 2018 and numbered 51475790-145.02-E165621, Iron Oxide was deemed suitable as a by-product according to the TS EN ISO 1248 standard. (The document requested by the Ministry during the unified environmental audit in 2018.)

**OYAK MINING METALLURGY GROUP AIMS TO GENERATE ECONOMIC VALUE AND SAVE NATURAL RESOURCES BY RECOVERING ALL WASTES RELEASED FROM ITS PROCESSES.**

### Steel Slag Recovery

The Compliance Certificates were obtained in 2016 following applications submitted to the TSE to use steel slag for the following purposes at Erdemir.

- Aggregates for non-binding and hydraulic binder materials used in civil engineering work and road construction
- Aggregates for bituminous mixtures and surface treatments for roads, airfields and other surfaces supporting traffic
- Concrete aggregates

Subsequently, the Ministry of Environment and Urbanization, the General Directorate of Environmental Management declared that it would be appropriate to make use of slag which was certified for its conformity to the standards set out below, as a by-product in road construction as specified in the standards, provided that the necessary measures were taken in order to stock, transport and use the slag to protect environmental and human health.

- TS EN 13043/Aggregates for bituminous mixtures and surface treatments for roads, airfields and other surfaces supporting traffic
- TS EN 13242+A1 Aggregates for non-binding and hydraulic binder materials used in civil engineering work and road construction

Compliance with the requirements required to obtain the CE certificate for steel slag, which is one of the requirements for the use of steel slag on the highway, was documented following the TSI inspection.

### In Sinter Factory, a total of 193,254.79 kg of Steel Slag was used.

After the slag generated during the steel production process was used in the cement sector as a raw material alternative, a total of 159,384 tons of steel slag was sent to Ünye Cement in 2018, thus providing slag for use as fuel derived from waste and as an alternative raw material.

### Residual Usage

In 2018, 4,041 wooden pallet packages, which came with refractory materials purchased, were returned to the company within the scope of the deposit application with the contributions of the Purchasing and Refractory Directorates.

### Blast Furnace Steel Filter Cake

According to the Communiqué on waste-derived fuel and alternative raw materials, 62,441 tons of blast furnace steel works filter cakes were sent to the external stakeholders.

Within the scope of feasibility studies carried out with residues, wastes will be treated and recycled while ensuring compliance with environmental legislation and eliminating the shortage of space in waste stock areas.

On the other hand, as a result of feasibility study into the utilization of steel slag, it was found that the most suitable consumption method was to use the slag in question as a sinter input material, as well as being sold to the cement sector and directly to third parties.

**AS A RESULT OF FEASIBILITY STUDY INTO THE UTILIZATION OF STEEL SLAG, IT WAS FOUND THAT THE MOST SUITABLE CONSUMPTION METHOD WAS TO USE THE SLAG IN QUESTION AS A SINTER INPUT MATERIAL.**

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT

## Glass and Paper Waste Bin Distribution and Collection Project

The "Glass and Paper Waste Bins Distribution and Collection Project" was launched with the six pilot units in order to reduce waste at its source and to improve and promote recovery. The project was rolled out comprehensively in 2018 with waste bins widely provided. Within the scope of the project, a total of 573 kg of glass, 925 kg of A4 paper and 514 kg magazines and books were collected from the waste bins, proving an important contribution to improving waste efficiency.

A total of 2,620 wooden pallets, used to box refractory materials coming from the Refractory Directorate, were returned to the Kümaş Company and they were recovered.

The number of waste collection points at İsdemir was increased in 2018. A total of 124 paper, 113 plastic and 101 glass waste boxes and 14 waste battery collection boxes, which are suitable for office use, were distributed. In addition to this, a total of 29 paper, 29 plastic and 24 glass waste collection barrels were installed on the operation site.

Thus, in 2018, 84 tons of paper, three tons of glass and 117 tons of plastic were collected for reuse.

In Erdemir, paper and glass collection containers were set up and produced with Erdemir facilities and 136 tons of paper was collected by contributing to the recycling of these materials.

## Amount of waste recovered for Recycling at Erdemir and İsdemir and brought into the economy in 2018

Type of Waste	Amount of Waste (tons/year)	
	Erdemir	İsdemir
Plastic Wastes	147	117
Wood Wastes	1,922	1,859
Paper Wastes	136	84
Conveyor Belts	142	392
Electronic Wastes	38	213
Slider Plate/Refractory Brick	Reused in the Steel Works processes	9,472
Metal Wastes	91	-
Waste Cable	112	94
Glass	2.6	3
End-of-Life Tires	42	55
Packaging Wastes	60	544

### Hazardous Waste

OYAK Mining Metallurgy Group fulfills legal requirements for hazardous waste produced during the course of its operations, both for its plants and its suppliers, and carries out notifications in a timely manner.

In 2018, at İsdemir, the Dangerous Goods Safety Advisor and Erdemir provided notification of the Dangerous Goods Safety Advisor to the Ministry. Unit visits/audits were undertaken and proactive measures were taken. All hazardous materials entering the factory in bulk form and which were packed were received under the control of the front desk upon entering the site.

Waste transformers with Polychloride Biphenyl (PCB) are stored in appropriate areas at the Erdemir plants. The project for the Removal of POPs Residues and Reduction of POPs Emissions was carried out in partnership with the United Nations Development Program (UNIDO), the United Nations Development and Industry Organizations (UNDP) and the Ministry of Environment and Urbanization. Accompanied by the officials of the Academy Environment and Polyeco Company, which won the tender, 44 transformers with PCBs and 15 tons of PCB oil in 60 barrels were sent for disposal.

### Water Management and Recirculation of Water

In line with its goal of managing its water footprint and reducing wastewater discharges, the OYAK Mining Metallurgy Group prepares its management plans with an awareness of the importance of recovering 95-98% of the water used and to preserve the environmental capital of water, air and soil.

The Group carries out work to maximize the rate of recirculation of water used during the production processes of Erdemir and İsdemir. The action plans in the monthly environmental reports are submitted to the Board of Directors.

At Erdemir, which receives its entire water needs from reservoirs, a proportion of the water is diverted to drinking water facilities where clean water is piped to homes, while the rest is directed to production points to be used in the processes as service water. The plants have closed circuit circulation systems in order to prevent the formation of wastewater and to reduce water use.

Online measurements were carried out in 2018 for the parameters specified in the Continuous Wastewater Monitoring Systems Communiqué with the Continuous Wastewater Monitoring Systems installed at the Chemical Wastewater Treatment Plant, the Power Plant Cooling Water, the 1<sup>st</sup> and 2<sup>nd</sup> Blast Furnace Cooling Water discharges, and 93.3% of the data was conveyed to the Ministry.

The Continuous Wastewater Monitoring Systems integrated comparison tests, which is performed every three months at Erdemir and İsdemir, were carried out with the Provincial Directorates of Environment and Urbanization. In order to monitor the temperature of coolant water extracted from the sea for use

**AT İSDEMİR, THE RATIO OF RECOVERED WASTE MATERIALS (1,131,879 TONS) USED IN STEEL PRODUCTION (5,631,891 TONS) WAS 20.09%.**

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT

in the 1<sup>st</sup> and 2<sup>nd</sup> Blast Furnaces in the Power Plant at Erdemir, temperature sensors were installed at various points in the north collector and the south collector on the water intake structure. All results were sent to the Ministry of Environment and Urbanization database. The temperature data is monitored in real time by the Ministry of Environment and Urbanization.

In 2018, a total of 413,457,995 m<sup>3</sup> of water was recirculated at Erdemir and 693,020,533 m<sup>3</sup> at Isdemir.

The following projects were carried out in the field of water management at Erdemir's facilities:

Renewal of the HSMF2 Cooling Tower
DAF Capacity Increase and Modernization
Cooling Tower Construction for the Floor System
Commissioning of the Steel Works Gas Washing Water Sludge Dewatering Plant
Service Water Sludge Dewatering Project
Supply Of Additional Filter Press Unit For Chemical Treatment Plant

In the project for the commissioning of the steel sludge dewatering plant of the gas washing water, the ratio of Suspended Solids in wastewater discharged in the south collector was reduced and recovered. In 2018, 33,600 tons of steel sludge was dewatered and the amount of sludge was reduced from 202,680 tons to 141,400 tons.

## Wastewater Analysis

At OYAK Mining Metallurgy Group plants; the pH, temperature, chemical oxygen demand, suspended solids, conductivity and dissolved oxygen parameters and emission measurements are realized at the wastewater and cooling water discharge points through the Continuous Wastewater Monitoring Systems. The related results are monitored by the Ministry of Environment and Urbanization as required by the Regulation on Water Pollution Control.

The analyses that are made on the samples, which are taken within the scope of internal monitoring within certain periods by the accredited laboratory, are reported to the Provincial Directorate of Environment and Urbanization. In addition, daily analyses are carried out in the environmental laboratories located within the plants.

## Emission Measurements

OYAK Mining Metallurgy Group monitors greenhouse gas emissions in accordance with Turkey's legislation of monitoring, reporting and verification, and continues its systematic works for the implementation of greenhouse gas reduction mechanisms.

In accordance with the Regulation on the Control of Industrial Air Pollution, the compliance of the flue gases at OYAK Mining Metallurgy Group plants with the limit values are periodically monitored.

**AT OYAK MINING METALLURGY GROUP PLANTS, DAILY WASTEWATER ANALYSES ARE CARRIED OUT IN THE ENVIRONMENTAL LABORATORIES LOCATED WITHIN THE PREMISES.**

The Continuous Emission Measurement Systems are constantly monitored in connection to the data network of the Ministry of Environment and Urbanization. The accredited laboratory conducts emission measurements at every flue on a regular basis every two years.

In line with the Erdemir and İsdemir greenhouse gas monitoring plans, for which approval was obtained from the Ministry of Environment and Urbanization, the Group takes part in workshops where the suitability of reduction mechanisms with Turkey's conditions is evaluated.

Carbon dioxide concentrations (tons of CO<sub>2</sub> per ton of crude steel), which represent the parameter of the environmental performance monitoring, are monitored on a monthly basis and this is adopted as the reduction target.

• **Success Criteria**

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

At Erdemir and İsdemir, The Turkish Standards Institute (TSE) conducted the transition audit of the ISO 14001 Environmental Management System to the 2015 version. Erdemir and İsdemir were the first companies in the sector to have transitioned to the new version of 14001 Environmental Management System.

- The scope, context, the related parties and their needs and expectations of the Erdemir Environmental Management System, internal and external issues and risks and opportunities were determined and related documents were created or revised.
- Integrated Internal Auditor training was offered in addition to the training on the ISO 14001: 2015 Environmental Management Standard provided for the unit's environmental representatives and the internal auditors of the Environmental Management System. Internal audits were carried out successfully.
- The process-based Environmental Aspect and Impact Assessment studies were examined by taking into account the requirements of ISO 14001: 2015 and the risks and opportunities were included after carrying out revisions from a life cycle perspective.

**ERDEMİR AND İSDEMİR WERE THE FIRST COMPANIES IN THE SECTOR TO HAVE TRANSITIONED TO THE NEW VERSION OF 14001 ENVIRONMENTAL MANAGEMENT SYSTEM.**

# ENVIRONMENTAL MANAGEMENT PROCESS AND ENVIRONMENTAL PERFORMANCE MANAGEMENT

## CO<sub>2</sub> Density

With efforts to tackle climate change gaining ever greater importance and adapting to a low carbon economy becoming inevitable, policies and plans that can bring about a new and global-scale impact have been introduced.

OYAK Mining Metallurgy Group once again calculated CO<sub>2</sub> emissions and submitted them to the Ministry in 2018.

At Erdemir, life-long assessment work continued with the R&D Directorate. The Blast Furnace Clean Production and Sinter LCA operation was completed.

## Operational excellence at İsdemir

The Optimization of SO<sub>2</sub> Emissions in the Hot Rolling Furnace Burners Chimneys project, which got underway in 2018 and was carried out as the operational excellence (OPEX) project in İsdemir, was completed successfully.

Within the scope of the project, the process parameters of the heating furnace affecting SO<sub>2</sub> emissions were determined. The relationship between these parameters and the amount of SO<sub>2</sub> in the flue gas was modeled. The model was prepared with the aim of achieving the maximum use of by-product gases by complying with the limit values determined for heating furnaces in the Regulation on Control of Industrial Air Pollution. Emission values and limit values were integrated into the operator screens of the heating furnaces, and more environmentally friendly production was achieved.

## Training and Social Activities

**OYAK Mining Metallurgy Group has adopted an environment approach that aims to raise awareness and sensitivity about the risks that threaten the future of our world and humanity, particularly climate change.**

OYAK Mining Metallurgy Group continued to provide its employees with training on the Group's environmental approach and the environmental impacts of its activities in 2018.

At Erdemir;

- Within the framework of the training to raise Environmental Awareness, a total of 577 hourly-salaried employees and 62 monthly-salaried employees received environmental awareness training on issues such as major industrial accidents, global warming, waste management, the importance of recycling and the Erdemir Environmental Management System.
- 1,295 sub-contractor employees were provided with awareness trainings about the ISO 14001 Environmental Management System and waste management at Erdemir.

**OYAK MINING METALLURGY GROUP CONTINUED TO PROVIDE ITS EMPLOYEES WITH TRAINING ON THE GROUP'S ENVIRONMENTAL APPROACH AND THE ENVIRONMENTAL IMPACTS OF ITS ACTIVITIES IN 2018.**

At İsdemir;

- Environmental Awareness and Environmental Management at İsdemir trainings were given to 48 employees
- Sharing meetings on environmental activities were organized with the participation of monthly- and hourly-salaried employees at the main plant units. These meetings addressed issues such as correct waste disposal and the importance of waste recovery. In addition, 474 employees were provided with the training on sensitivity to the environment.
- Within the scope of Environmental Management System 14001: 2015 transition work, TS EN ISO 14001: 2015 Environmental Management System Awareness Training was provided to 65 employees and TS EN ISO 14001: 2015 Environmental Management System Basic Training was provided to 132 employees.

In addition, thanks to the activities listed below, further knowledge has been accumulated that can be deployed to develop applications compliant with the legislation.

- The National Authorization, Audit, Laboratory and Environmental Officer Workshop, in which one employee took part
- Environmental Technologies Specialization Fair, in which three employees took part
- The Latest Status in the Mining, Environment and Forestry Legislation, and the Applications Seminar, in which two employees took part

### **Non-Corporate Training Activities**

- A total of 52 children in the Ereğli Filiz kindergarten, the Ereğli Gonca nursery and the Erdemir Child Care Nursery were given lessons to raise their environmental awareness.
- Lessons and practical recycling activities aimed at raising environment awareness were provided at the Demir Çelik Nursery School. Environmental festivals were organized in the site region as part of World Environment Day on June 5<sup>th</sup> and World Cleanup Day on September 15<sup>th</sup>. Waste collection and separation activities were organized with the participation of employees, members of the community and school pupils in the residential area.

OYAK Mining Metallurgy Group continues to carry out environmental awareness training and cooperation with schools in order to raise environmental sensitivity among the young.



## **THE OYAK MINING METALLURGY GROUP'S POLICY ON CLIMATE CHANGE**

Climate change, which is among the most important problems facing us today, has a profound impact on the global economy. According to the Global Risks Report presented at the World Economic Forum, climate change and extreme climate events are among the most serious global risks facing our planet.

The steel industry has an important role to play in the fight against climate change. In parallel with the Paris Accord, we believe that limiting the global rise in temperature to less than 2 degrees is crucial. We are aware of the importance of steel in the transition to

a low-carbon economy and a future where resources are used efficiently. In line with the Sustainable Development Goals, we are committed to contributing to the 13<sup>th</sup> Climate Action and 12<sup>th</sup> Sustainable Production and Consumption targets.

As Turkey's biggest steel producer, we have important responsibilities in the fight against climate change. By adopting a cyclical economy approach, we aim to ensure energy and material efficiency and to contribute to sustainable development. We aim to reduce our carbon footprint and protect our competitive power by continuously developing our integrated production facilities in line with new technologies.

**Climate change is one of the most important issues on today's global agenda.**

The efforts to tackle climate change require carbon-reducing or substituting technologies to be rapidly rolled out around the world.

It is projected that the world will have to produce twice as much energy in 2050 as it does today in order to sustain global economic growth; thus keeping carbon dioxide (CO<sub>2</sub>) concentrations at manageable levels will be of paramount importance going forward.

Total greenhouse gas emissions have surged since the 1950s, when industrialization gained momentum. Governments, corporations and NGOs achieved a broad consensus regarding this situation which could threaten the future of humanity if the increase in greenhouse gas emissions continue at the same rate, and have stepped up their efforts to tackle the problem.

Climate change is one of the factors shaping the environmental understanding of OYAK Mining Metallurgy Group.

OYAK Mining Metallurgy Group follows an approach that oversees the environmental and social issues and reduces the impacts at their source through its production policy, which contributes to efforts to tackle climate change.

The Group is constantly improving its awareness of climate change. It contributes to the process through the steps it has taken and the extensive investments it has undertaken in this field and demonstrates that it is actively involved in the fight against climate change.

The Group takes into account all the fuel and raw materials which contain carbon and their carbon amount when calculating CO<sub>2</sub> volumes. Carbon dioxide density (tons of CO<sub>2</sub>/tons of crude steel), which is the parameter of environmental performance monitoring, is monitored on a monthly basis. Adopting the target for CO<sub>2</sub> reduction, the Group analyses the amount of CO<sub>2</sub> generated by the projects it will invest in.

**Erdemir and İsdemir again meticulously fulfilled their legal requirements set out in environmental regulations in 2018.**

- The Greenhouse Gas Emission Report for both Erdemir and İsdemir for 2018 were approved by the verifying organization and uploaded to the Ministry system in accordance with the Regulation on the Amendment of the Regulation on the Establishment of Greenhouse Gas Emissions.
- In line with the objective of monitoring of international developments regarding climate change and ensuring their integration into the Group's plans, the Group participated in all workshops held under the Emissions Trading System (ETS) and the Partnership for Market Readiness for Carbon Markets (PMR) Turkey Project organized by the Ministry of Environment and Urbanization, and the opinions were delivered.

**OYAK MINING METALLURGY GROUP FOLLOWS AN APPROACH THAT OVERSEES THE ENVIRONMENTAL AND SOCIAL ISSUES AND REDUCES THE IMPACTS AT THEIR SOURCE THROUGH ITS PRODUCTION POLICY.**

# CLIMATE CHANGE AND ENERGY MANAGEMENT

## **OYAK Mining Metallurgy Group works to minimize energy losses with systematic measurement and monitoring.**

OYAK Mining Metallurgy Group contributes to the conservation of natural resources and the environment through its work on the efficient use of energy, while also gaining a competitive advantage. The Group companies are working to implement technological innovations that increase energy efficiency, to maximize the benefits of waste heat and by-product gases, and to minimize energy losses through systematic measurements and monitoring.

As a result of systematic studies aimed at energy efficiency, high levels of energy saving have been achieved.

Erdemir and İsdemir, both Group companies, have achieved successful results in specific energy consumption, which is one of the important performance indicators in the iron and steel sector. Erdemir, İsdemir and Erdemir Romania, which have the capacity to generate almost all of the electricity they use, implement the TS ISO 50001 Energy Management System.

## **Erdemir and İsdemir continuing to provide training on energy saving, efficiency and cost management to their employees**

Erdemir and İsdemir, which consider people to be the most decisive factor in the success of their efforts in the field of efficient resource utilization and energy efficiency, continued to provide training on energy saving, efficiency and cost management in 2018.

Training on energy savings, efficiency and cost management continued to be provided to employees in the fields of efficient resource utilization and energy efficiency in 2018. This training was provided to 34 hourly-salaried, 17 monthly-salaried employees in Erdemir in 2018, bringing the number of personnel to have received the training programs since 2007 to 4,881. In 2018, a total of 51 employees received the 1-day Steam Systems Practical Training in 3 semesters. Participants practiced

at the Kondenstop (Steam Trap) unit which was created to turn acquired theoretical knowledge into practice, after receiving theoretical training on the characteristics of steam, steam production, energy resources used for steam production, distribution lines, steam equipment and thermal insulation for energy recovery.

In addition, the 1-day Practical Training program on Combustion and Ignition Systems was given to 17 employees on two occasions. Participants were provided with basic instruction on combustion, combustion types, industrial combustion systems, feasible and efficient improvements in energy saving. Energy Management System adaptation training was provided to 132 newly recruited employees to raise their energy awareness.

In 2018, three engineers received Energy Management Certificate Training, taking the total number of certified engineers in Erdemir to 32. In Erdemir, a total of four personnel hold a Survey and Project Certificate.

In İsdemir, 509 people received training on "Energy Management System and Implementations at İsdemir" in 2018, primarily workers paid on an hourly-basis e.g. shift supervisors and shift superintendents. Training programs covering energy consumption in Turkey and in the world, İsdemir's energy consumption amounts, the applications for savings, efficient use of energy, actions to achieve savings and lower costs of energy continue in 2019 in a bid to increase awareness. The Energy Management System Adjustment Training program was provided to 85 new employees to raise awareness of energy efficiency.

By the end of 2018, a total of 25 İsdemir employees who participated in the training programs provided by authorized institutions and awarded their Energy Management certificate, based on their results in the central examination, with seven employees receiving the Industrial Research Project Certificates.

### **Participation in a wide array of national and international environmental projects**

İsdemir assumed the role of pilot facility in the “determination of clean production opportunities and applicability in industry” project carried out by the Ministry of Environment and Urbanization (SANTEM) and TÜBİTAK on the examination of clean production opportunities in the steel industry.

By working jointly with the TÜBİTAK team, sectoral regulatory impact analysis will be carried out, incentive and financing models will be developed and the management plan report will be published by investigating “applicability of the best techniques available” in iron and steel production processes at İsdemir’s plants.

The final report of the Determination of Clean Production Opportunities and Applicability in the Industry Project carried out in cooperation with TÜBİTAK-MAM and the Ministry of Environment and Urbanization, where the best techniques available in the sector were examined, was published in 2018.

On the other hand, the Group participated in studies to improve the methods of iron and steel greenhouse gas emission calculation within the scope of the Technical Assistance Project to Support the Mechanism of Monitoring Turkey’s Greenhouse Gas Emissions (TASK GHG), which is carried out by the European Union and the Turkish Republic Ministry of Environment and Urbanization, with reports calculated annually by the Turkish Statistical Institute (TurkStat) and submitted to the Secretariat of the UN Framework Convention on Climate Change (UNFCCC).

Within the scope of the Stockholm Convention on Persistent Organic Pollutants (POPs), İsdemir was one of the parties to the Project on the Elimination of POPs Remnants and Reduction of POPs Emissions conducted to investigate the current situation and capacity building in Turkey. Support from the Global Environmental Fund (GEF) was provided for

the project carried out in cooperation with the Ministry of Environment and Urbanization, the United Nations Development Program (UNDP) and the United Nations Industrial Development Organization (UNIDO).

Within the scope of the “Curbing the Release of Undesired POPs in Production” component of the project, training programs were organized for priority industrial sectors in İskenderun in 2017. A field visit took place to İsdemir with the participation of sector experts and the Ministry of Environment and Urbanization.

Unintentional POPs emissions may occur in the integrated iron and steel production process in iron sintering plants. In order to support the capacity development of the project, emission measurements were carried out in 2017 at İsdemir’s Sinter Plants. Investments in the modernization of the Electrostatic Precipitator (ESP) dust collector system installed in the 1<sup>st</sup> and 2<sup>nd</sup> Sinter Plants and modification of the dust transport systems were realized simultaneously. The technical experts determined that these investments had contributed to the reduction of POPs emissions. A grant of USD 150,000 for these investments was approved by UNIDO in 2018 from the Global Environment Fund’s budget for the metallurgical sector of the project.

Being party to the project has enabled the development of national emission mitigation plans for POPs emissions with measurement and reporting. İsdemir’s contributions and compliance of the measurement results to the limit values stated in the European Union Best Available Techniques documents are included in the project results reports.

**THE GROUP PARTICIPATED IN STUDIES TO IMPROVE THE METHODS OF IRON AND STEEL GREENHOUSE GAS EMISSION CALCULATION WITHIN THE SCOPE OF THE TECHNICAL ASSISTANCE PROJECT TO SUPPORT THE MECHANISM OF MONITORING TURKEY’S GREENHOUSE GAS EMISSIONS (TASK GHG).**



## **“Let the Fields Be Ploughed and the Tradition Continue” project**

Erdemir realized the project “Let the Fields Be Ploughed and the Tradition Continue” with the aim of increasing production and encouraging the cultivation of Ottoman Strawberries, which have become synonymous with Karadeniz Ereğli region, but the production of which had diminished over the years, and contributing to biodiversity and the protection of species native to the region in which the Company operates.

The project was launched at the end of 2016 in order to provide a sustainable model with its content, goals and cooperation.

One of the most important problems in the cultivation of the Ottoman Strawberry, whose production had been gradually decreasing, was providing quality seedlings. With the contributions of the Association of Dissemination of Ottoman Strawberries and the Protection of Producers and the Directorate of Food, Agriculture and Livestock in the Ereğli District, a total of 50 seedlings obtained as a

**“LET THE FIELDS BE PLOUGHED AND THE TRADITION CONTINUE” PROJECT WAS LAUNCHED IN ORDER TO PROVIDE A SUSTAINABLE MODEL WITH ITS CONTENT, GOALS AND COOPERATION.**

result of the research carried out in the villages of the region were sent to culture laboratories in Antalya to be reproduced. The local Ottoman Strawberry seedlings obtained from the region were grown in culture laboratories, and hence the first step was taken to protect the species.

The land provided as a production area within the scope of the project was rendered suitable for planting with the soil enrichment method, an irrigation system was established and the seedlings obtained in the laboratory started to be reproduced. The primary school building, which was in a state of disrepair, was transformed into a training hall and a walk in box (cold room) was established for the protection of the seedlings.

In the spring of 2017, a total of 5,000 seedlings were planted in the field determined as the production area. The number of seedlings increased to 15,000, focusing on seedling growth instead of fruit production in the first year and these seedlings were again place in the soil in the autumn of the same year for the production of fruit. The first fruit harvest was realized in 2018. In addition, training was provided to interested farmers, and 10,000 seedlings, which were reproduced and protected in the walk in cold room, were distributed to 20 volunteer growers selected by

the Provincial Food, Agriculture and Livestock Administration. Communication and training activities were carried out in order to raise awareness of this fruit which, despite dwindling supplies has always very much been in demand, in order to offer encouragement to growers and to ensure the work was performed with the correct production techniques.

The general decrease of agricultural production in our country and, in parallel with this, in the region, the support for different agricultural products through agricultural incentives, the lack of knowledge of agricultural methods among farmers, the lack of quality seedlings, the delicate nature of the product, and the limited shelf life were the risk factors for the project. With the support of the Association of Food, Agriculture and Livestock of Ereğli and the Association of Spreading Ottoman Strawberries and the Protection of Producers, the families of volunteer farmers who will cultivate Ottoman Strawberry were reached, and another risk was eliminated.

Voluntary farmers who are provided with free seedlings received training on how to grow the product by organizing training programs in which the traditional knowledge about the cultivation of the product was enriched with the sharing of new techniques and practices

# 15,000

THE NUMBER OF OTTOMAN STRAWBERRY SEEDLINGS INCREASED TO 15,000.

in agriculture, in order to gain the highest yield from the seedlings. In this way, it was aimed to increase productivity so that more volunteer growers could get involved in the project in the coming period. The families who receive the seedlings will be able to reproduce their seedlings and ensure the continuity of cultivation. In addition, seedlings will be cultivated in the production area during the project period and the seedlings will be distributed to the new families in the coming periods.

In addition to the seedlings distributed to the volunteer families, some of the seedlings were planted on the project land and work continued towards more efficient production of the strawberries.

In addition to the natural factors, which are risk factors in all agricultural products, the limited shelf life of the product and the lack of innovative platforms that will bring producers and consumers together are among the risks that may affect the future of the project. However, in the future, it is hoped that working on platforms will bring producers and those who can utilize the product together in different ways.

## **Communication of the project**

The project started with a protocol signed between the partners at the end of 2016. In 2017, the project was announced with a press release in April when the seedlings produced in culture laboratories were planted in the soil. Project partners came together at certain intervals to evaluate the development of the project in their meetings.

In 2018, when the first fruit was harvested, a seedling distribution ceremony was held with the participation of provincial and district protocol, members of the local press and the families of the growers, with the developments regarding the project discussed during the ceremony. In addition, the national press was informed through a newsletter. An event was organized with the participation of social media opinion influencers to draw attention to the project on a national scale. The project was also included in the OYAK Mining Metallurgy Group's annual report and its sustainability report.

With the communication activities carried out, the announcement of the "Let the Fields Be Ploughed and the Tradition Continue" project on a local and national scale was realized, highlighting the cultivation of the Ottoman Strawberry. The Harvest Event was covered

**SOME OF THE OTTOMAN STRAWBERRY SEEDLINGS WERE PLANTED ON THE PROJECT LAND AND WORK CONTINUED TOWARDS MORE EFFICIENT PRODUCTION OF THE STRAWBERRIES.**

in 21 publications (10 national and 11 Local) including the Habertürk, Star, Milliyet, Sözcü, Yeni Şafak, Dünya, Akşam, Vatan, Cumhuriyet and Türkiye newspapers with the headline “Steel Protection By Erdemir for the Historical Ottoman Strawberry of Ereğli”, with the coverage brought to 3,528,003 readers. With over 100 digital media images, the Instagram shares by the influencers received more than 33,000 likes, and the 144 stories were accessed 1.5 million times. A total of 5 million hits were achieved through the communication efforts.

### Plantation Project Works

To reduce the carbon footprint of the employees, tree planting work began to be carried out at Erdemir and İsdemir facilities.

#### ERDEMİR TREE PRESENCE (unit)

In Factory	16,301
Bağlık Lodgings	7,200
Göztepe Lodgings	7,048
Reservoirs and Beach	19,800
Total	50,349

While the planned work on planting a further 3,500 additional trees in the area around the factory and the reservoirs continues, the decision was taken to carry out tree planting for carbon certification.

Carbon storage capacity is calculated based on the biomass models developed for tree species. The leaf type varies according to the hardness, age and region in which the trees grow. In the approaches proposed by the IPCC, calculations are made on carbon biomass exchange per unit area by taking into account the regions in the forest ecosystem such as above ground, subsoil, dead wood etc. (e.g. tons of CO<sub>2</sub>/ha-year).

Erdemir and İsdemir continue to conduct studies into the number of trees needed to reduce their carbon footprint, assessing climate, the planting area, the number of grown trees or sapling planting etc. Within the scope of the 100<sup>th</sup> anniversary activities, preparations were completed in order to plant 1,919 trees in the reservoir basin and to carry out carbon certification. A project for the planting of 1,500 rubber plants and 3,000 pine trees is underway in the İsdemir Administrative Affairs Department.

**TO REDUCE THE CARBON FOOTPRINT OF THE EMPLOYEES, TREE PLANTING WORK BEGAN TO BE CARRIED OUT AT ERDEMİR AND İSDEMİR FACILITIES.**



# AN INDISPENSABLE PART OF LIFE

A PRODUCT THAT ADDS QUALITY AND  
CONVENIENCE TO OUR DAILY LIVES WITH MANY  
MATERIALS WE USE



## SOCIAL PERFORMANCE

### CUSTOMER RELATIONS MANAGEMENT



#### **A customer portfolio consisting of different sectors and users**

Today, at a time when technology is developing at a breakneck pace, the changes and expectations in customer needs continue to change at the same pace, and this trend requires customer-oriented management to spread from the monopoly of marketing and sales to the entire business.

With this awareness, the OYAK Mining Metallurgy Group continues to shape its processes by keeping in mind that customer expectations can be met at the right time, with the right product and at the right cost.

In this context, the number of grades produced by the OYAK Mining Metallurgy Group, which provides new product grades to its customers every year, in line with the demands and expectations of global customers, rose to 479 in 2018. New products were presented to customers every 23 days.

In addition to new products, the sales volume of the products offered for sale based on the demands of the customers in the last 3 years amounted to 795,000 tons. This figure corresponds to approximately 11% of the flat steel sales of the OYAK Mining Metallurgy Group.

**OYAK MINING METALLURGY GROUP CONTINUES TO SHAPE ITS PROCESSES BY KEEPING IN MIND THAT CUSTOMER EXPECTATIONS CAN BE MET AT THE RIGHT TIME, WITH THE RIGHT PRODUCT AND AT THE RIGHT COST.**

The OYAK Mining Metallurgy Group acts as a solution partner in many sectors in which its customers operate. In this context, the Group, as the main supplier of domestic and international projects, in which energy and infrastructure customers have a significant share, brought the value-added product sales rate to 26% - the highest level in recent years - and it has also enabled domestic manufacturers to take part in new projects in many regions, especially in Europe, with the products it offers.

#### **Customer-focused corporate governance**

Today's changing world and developments in the shifting economic order calls for drastic changes in the conceptual field. In a world of rapid change, traditional ways of doing business have given way to multidimensional relationship management, positioning the customer at the heart of this cycle.

In this context, Customer Relationship Management (CRM) is becoming a tool for businesses to find customers in an increasingly competitive environment, to retain these customers, to make them loyal customers and to increase profitability ratios in the relations established with these customers.

Having a customer portfolio that is composed of a range of industries and users, OYAK Mining Metallurgy Group determines customer needs and expectations in a timely and accurate

manner with the Customer Relationship Management that it applies and achieves a competitive advantage by setting itself apart with its products and services.

The Group continues its operations with a business approach that is focused on adding value to its customers and building mutually sustainable and strong relationships with each other.

Aiming to keep customer satisfaction and loyalty high at all times, OYAK Mining Metallurgy Group attaches importance to its customers, establishes strategies based on the information it gains through its efforts to get to know them more closely, ensures that all customers are a part of the process and differentiates itself from its competitors with its long-standing experience, international know-how and market knowledge.

### **OYAK MINING METALLURGY GROUP DETERMINES CUSTOMER NEEDS AND EXPECTATIONS IN A TIMELY AND ACCURATE MANNER WITH THE CUSTOMER RELATIONSHIP MANAGEMENT.**

# 26%

**THE GROUP BROUGHT THE VALUE-ADDED PRODUCT SALES RATE TO 26%.**

# HUMAN RESOURCES



**OYAK Mining Metallurgy Group, which considers its employees as its greatest source of value, operates as a participatory organization characterized by mutual respect and trust.**

**The Group contributes to the individual and professional development of its employees and transforms their potential into productivity.**

**OYAK Mining Metallurgy Group adopts a culture of “being us” as the basis of the human resources approach.**

The OYAK Mining Metallurgy Group takes into account the needs and expectations of its employees in order to establish and maintain a culture of “being us”, and designs applications that will increase their motivation, attaching importance to shaping working conditions accordingly.

**OYAK MINING METALLURGY GROUP TAKES INTO ACCOUNT THE NEEDS AND EXPECTATIONS OF ITS EMPLOYEES IN ORDER TO ESTABLISH AND MAINTAIN A CULTURE OF “BEING US” .**

OYAK Mining Metallurgy Group's human resources practices include increasing employee commitment, supporting the development of its employees and providing career opportunities that offer equal opportunity for all. Our employees produce and share information, are open to development, are responsible, generate solutions, are innovative and are able to work in teams, and progress in line with the common goals as part of a big family which develops and grows with the strength of its newly recruited employees.

The Group believes that it will focus more strongly on its corporate targets with its qualified human resources and that it can achieve success by increasing the added value generated by its employees.

OYAK Mining Metallurgy Group employees move forward in line with the common goals as part of a large family. Right from the moment they join the Group, they act with the awareness of being part of a leading family, which is held up as an example in every area.

**OYAK Mining Metallurgy Group is one of the companies with highest number of employees in Turkey.**

In 2018, Erdemir and İsdemir continued their efforts to acquire, retain and develop talent in the field they operate in with competent and highly committed human resources.

As of 31 December 2017, OYAK Mining Metallurgy Group employed a total of 11,607 people, including 7,725 hourly-salaried workers, 3,880 monthly-salaried employees and 2 contracted personnel. The Group, in which 65% of employees are paid on an hourly basis, has once again maintained its position as one of the most preferred industrial companies in Turkey to work in with the employment it provides.

The proportion of women among monthly-salaried workers in the OYAK Mining Metallurgy Group stood at 14%, and the ratio was 40% in the Group Head Office as of the end of 2018.

A total of 505 women were employed in Erdemir and İsdemir at the end of 2018 and 29% of the personnel paid on a monthly basis were women. In 2018, the rate of female recruitment was 18% in Erdemir and 23% in İsdemir.

Supporting the increasing participation of women in working life is an important priority and target for the Erdemir and İsdemir. The Group is determined to carry out efforts to increase the number of women working at different levels in both Erdemir's and İsdemir's factories to meet this goal in the coming period.

# 505

A TOTAL OF 505 WOMEN WERE EMPLOYED IN ERDEMİR AND İSDEMİR AT THE END OF 2018.

**THE GROUP BELIEVES THAT IT WILL FOCUS MORE STRONGLY ON ITS CORPORATE TARGETS WITH ITS QUALIFIED HUMAN RESOURCES AND THAT IT CAN ACHIEVE SUCCESS BY INCREASING THE ADDED VALUE GENERATED BY ITS EMPLOYEES.**

## **Working to a primary target of strengthening its high performance culture**

Managing human resources processes with a holistic approach, the OYAK Mining Metallurgy Group aims to determine the individual targets that will serve the corporate goals and to evaluate the contribution of its employees to the organization's targets, to determine the development needs and to ensure the development of its employees with effective feedback mechanisms and training programs. The Group uses those results to draw up training and career development plans.

## **Applying the principle of "equal pay for equal work"**

At OYAK Mining Metallurgy Group, the remuneration policy is based on the principle of "equal pay for equal work" in line with the business cascading infrastructure. The work levels are determined by taking into consideration of the extent of the work being done, and salaries are determined for these levels based on market research and internal analysis. With this system, it is possible to assign wages that are fair and competitive in the market.

OYAK Mining Metallurgy Group companies, whose main target of the remuneration policy is to maintain internal and external balance in the wage structure, are provided with the principle of "equal pay for equal work" principle. In the external balance (market sentiment), sector dynamics and inflation developments are taken into account.

## **Carrying out industrial relations in a dialogue with mutual understanding**

OYAK Mining Metallurgy Group conducts industrial relations by establishing a robust, constructive, development oriented and mutually understanding dialogue that respects the rights of its employees to organize themselves in trade unions and maintains workplace harmony with both employees and authorized trade unions. In this context, the Group adopts a mentality that supports the development of the trade union concept that is expected to be needed in the future and to create a model of modern industrial relations and which will ensure the full and proper use of the personal rights of employees.

There are no practices of discrimination, child labor, forced or compulsory labor in the Group. At the same time, suppliers and the business partners are expected to meet similar working norms. Human resources policies and processes are managed by expert units, employees are encouraged to participate in the management and practices are developed for employees to share innovative ideas which make a difference.

**OYAK MINING METALLURGY GROUP CONDUCTS INDUSTRIAL RELATIONS BY ESTABLISHING A ROBUST, CONSTRUCTIVE, DEVELOPMENT ORIENTED AND MUTUALLY UNDERSTANDING DIALOGUE THAT RESPECTS THE RIGHTS OF ITS EMPLOYEES.**

### **Systematic measurement of employee commitment**

Employee commitment within OYAK Mining Metallurgy Group is determined through systematic measurements and various measures aimed at improvement are carried out, depending on the results. The measurements conducted in 2014 and 2015 produced a result that was above the world average for the hourly-salaried workers. Improvement plans were prepared for the areas where the measurements indicated required development. In this context, the year 2016 was used as a year of implementation for the improvement actions.

In the previous years, all employees in all Group companies were asked to take part in the employee loyalty survey, which consists of employees' responses to human resources practices, and the results found an 87% rate of loyalty in the survey, in which 9,879 people took part. In line with this, action plans taken in 2018 were implemented in the form of stakeholder participation meetings throughout the Group.

Communicating with employees through different platforms

Within the scope of internal communication activities and for the purpose of effective interaction, OYAK Mining Metallurgy Group establishes dialogue with its employees through different platforms at certain periods.

These platforms are as follows:

- Steel Portal
- Informative presentations regarding human resources systems and sharing meetings
- Group Academy Portal
- Employee activities
- OYAK Mining Metallurgy Group TV
- Individual interviews
- OYAK Digital HR Platform

### **OYAK Mining Metallurgy Group provides its employees with training and development opportunities during their careers.**

Being one of Turkey's foremost and largest employers, OYAK Mining Metallurgy Group provides its employees with training and development opportunities during their careers from the very moment they start working in the Group.

The Group invests in new practices and methods in talent management and with its training and development activities. Through its talent management, the Group aims to meet the existing organization's need for skills and talent, and to ensure the organization's human resources are competitive by providing the employees appropriate development plans.

In the training activities, technical, personal and leadership development training is supported through internal training and outsourced training programs.

### **The Group Academy - Raising future leaders of OYAK Mining Metallurgy Group**

The Group Academy manages the training needs and activities of OYAK Mining Metallurgy Group under one roof, which will serve corporate strategies and goals. The training/development activities, which were transformed into an academy structure in 2015, continues to provide high quality education and development programs in line with the positions of the employees, their competencies and the departments they work in.

**OYAK MINING METALLURGY GROUP INVESTS IN NEW PRACTICES AND METHODS IN TALENT MANAGEMENT AND WITH ITS TRAINING AND DEVELOPMENT ACTIVITIES.**

# HUMAN RESOURCES

Acting with the awareness that one of the key factors of being a team that displays a strong and successful performance is leadership, OYAK Mining Metallurgy Group founded the Faculty of Leadership in 2015 with the aim of raising leaders who will help the Group reach its future goals, in addition to creating a common management culture within the Group.

Executives who participated in the program had the opportunity to develop their leadership competencies through a variety of methods. These methods included in-class training, the 360-degree evaluation, one-to-one coaching, follow-up activities, learning from each other. The Leadership Faculty, which was completed in 2018 with the participation of 400 people, will be updated and continue its activities for all managers in 2019 in line with the Group's needs and corporate vision.

With the aim of increasing employee's personal and occupational competencies and providing them with opportunities to develop themselves in line with prevailing needs and ensuring they adopt the Group's shared values, a total of 579,185 hours of training was planned in 2018, with an emphasis on the subjects of personal and professional development, management, management systems, occupational health and security.

OYAK Mining Metallurgy Group, which is leading the steel sector with its learning organization structure, for the purpose of improving the intellectual capital of both employees and the Group, and ensuring that this knowledge became persistent, work has started on projects to establish a Purchasing and Iron-Steel Faculty - in addition to the Sales Faculty - and raising the corporate memory up to the level of the system.

The engineering development program, which aims to encourage young engineers to speak a common language, and the terotechnology development program, which is specialized for engineers working in the filter units, was put into practice in 2018.

With the aim of promoting a culture of occupational health and safety, by adding observation extent to the "Behavior Driven Security Management System" in 2018, activities to roll out the system to all Group Companies got underway.

Focus group interviews were conducted for employees at all levels throughout the Company, including subcontractors for the current situation analysis, in the establishment of the Behavior-Oriented Security Management System that was launched in the final quarter of 2018 at Ereğli.

Additionally, summit and seminar programs, with the participation of professionals who can speak on the "effects of digital transformations, predictions, success in world's standards, neuro-marketing" in the local and international area, have been organized with the new initiative that started in 2019 in order to improve opportunities for cooperation within the group along with the motto of a "Altogether for a Strong Future".

**OYAK MINING METALLURGY GROUP HAS STARTED A PROJECT TO ESTABLISH A PURCHASING AND IRON-STEEL FACULTY FOR THE PURPOSE OF IMPROVING THE INTELLECTUAL CAPITAL OF BOTH EMPLOYEES AND THE GROUP.**

**OYAK Mining Metallurgy Group employees participate in many national/international conferences, congresses and summits.**

OYAK Mining Metallurgy Group provides its employees with the opportunity to participate in national/international conferences, congresses and summits in order to help them share their knowledge and experience and also for them to follow up on current topics and studies related to the sector and the Group's operations.

In this vein, 226 employees in Erdemir participated in 69 different congresses, conferences and seminars in 2018. Nine oral and poster presentations were made on the topic of Occupational Health and Safety and Iron and Steel in Erdemir.

In İsdemir, 103 employees took part in 18 different events in Turkey while 14 employees participated in 8 events in international congresses, conferences and fairs. A total of 16 oral and 12 poster presentations were given by employees in the national and international congresses and conferences.

**In-Unit Training System**

The In-Unit Training System enables the continuous development of work methods through the transfer of knowledge and experiences as a dynamic training model. In this context, 3,596 participants were provided with a total of 64,360 hours of training.

**Internship opportunities offered to students**

The OYAK Mining Metallurgy Group continued to offer internship opportunities to high school and university students in 2018.

168 vocational high school students, ten Vocational Junior College students and 96 university students at Erdemir, 140 vocational high school students, 21 Vocational Junior College students and 195 university students at İsdemir, and 21 vocational high school students at other Group companies were provided with long- and short- term internships.

**Continuing to enrich the social lives of its employees**

In 2018 the Group continued to enrich the social lives of its employees and their families with a range of facilities such as swimming pools, beaches, tennis courts, gyms, a stadium, cultural and healthcare centers and public housing on the Ereğli and İskenderun sites. In addition, the Group continued to encourage its employees to carry out volunteering work for appropriate social activities in which they would take part with an awareness of their social responsibility.

**Employee participation is considered to be of paramount importance at OYAK Mining Metallurgy Group.**

OYAK Mining Metallurgy Group regards employee participation as an indispensable requirement in terms of achieving its objective of long-term, profitable and sustainable growth.

From knowledge to experience, from new ideas to sharing in the proposal system, the Group makes use of every contribution from its human resources. These contributions pave the way for improvements and savings in a wide range including environment, customer satisfaction, OHS and operational activities.

**OYAK MINING METALLURGY GROUP REGARDS EMPLOYEE PARTICIPATION AS AN INDISPENSABLE REQUIREMENT IN TERMS OF ACHIEVING ITS OBJECTIVE OF LONG-TERM, PROFITABLE AND SUSTAINABLE GROWTH.**



**OYAK Mining Metallurgy Group recognizes that its most valuable asset is its employees and is unwavering in striving to keep all risks related to OHS under control.**

The principle of “people first” serves as a guide for the OYAK Mining Metallurgy Group in the field of the OHS.

The Group aims to develop an awareness of safety which starts from the individual and extends to their entire environment, and which goes far beyond the protective equipment and legal regulations provided in the OHS field.

The Group carries out intensive and systematic studies and realizes investments where the approach to occupational health and safety, developed with the participation of employees at all levels, is put into practice.

The aim of projects implemented is to ensure that the work carried out in the field of OHS is not confined to the management level, but that all employees adopt joint initiative projects and carry them to the future.

**OYAK MINING METALLURGY GROUP AIMS TO DEVELOP AN AWARENESS OF SAFETY WHICH STARTS FROM THE INDIVIDUAL AND EXTENDS TO THEIR ENTIRE ENVIRONMENT.**

In the future, OYAK Mining Metallurgy Group aims to bring together the experience and achievements gained from the work in this field with stakeholder groups such as employees' families, regional producers and students, and to encourage a behavior-oriented safety culture.

#### **OHS policy at OYAK Mining Metallurgy Group**

- To produce "accident-free steel" by determining the risks and systematically managing them.
- To prevent work related accidents and illnesses by keeping processes and the working environment healthy and safe, and to protect the health of employees.
- To promote a sustainable security culture shaped by the participation and ideas of all employees.
- To implement and maintain the Safety Management System for the prevention of Major Industrial Accidents resulting from process and hazardous materials that could cause significant losses in production and work.

#### **OHS system requirements fulfilled in 2018**

Erdemir and İsdemir, which fulfilled the requirements of the TS-OHSAS 18001 Occupational Health and Safety Management System, ensured the continuity and development of the system in 2018. In addition, studies have got underway within the scope of ISO 45001 Occupational Health and Safety Management System standard revision. The certification work is planned to be carried out in 2019 within the scope of this standard.

Different training programs held to cover different risks in the field of OHS.

In order to create and maintain a culture of safety in all of its companies, OYAK Mining Metallurgy Group continues to organize various training programs to deal with the various risks facing both employees and sub-contracted employees, depending on the characteristics of their work that they carry out.

In 2018, at Erdemir, 122,537 hours of OHS training was provided to employees, and 19,119 hours of OHS training was provided to sub-contracted employees. At İsdemir, 145,833 hours of OHS training was provided to employees and 28,126 hours of OHS training was provided to sub-contracted employees.

Some of the training programs provided to Erdemir employees:

- Eight personnel received training on IECEx Unit 002, on the classification of hazardous areas. 18 personnel received training on IECEx Unit 001 (Applying basic principles of protection in explosive atmospheres) & 003 (Installation of explosion-protected equipment and wiring systems) & 005 (Overhaul and repair of explosion-protected equipment (Ex)).
- A total of 401 personnel received training on IEC 60079-19 standard: Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation.

**ERDEMİR AND İSDEMİR ENSURED THE CONTINUITY AND DEVELOPMENT OF THE TS-OHSAS 18001 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM IN 2018.**

## OCCUPATIONAL HEALTH & SAFETY (OHS)

- In order to carry out the proper execution of personal exposure measurements, five specialized personnel from ISGÜM (the Directorate of Occupational Health and Safety Center), which carry out measurements on behalf of the Ministry on subjects such as new standards, measurement methods, techniques, etc., visited Erdemir and provided exposure measurements training to the Occupational Safety and Workplace Physicians working in Erdemir.
- A total of 5 personnel were given the opportunity to obtain the NEBOSH-International OHS Certificate.
- A total of 143 personnel from the mechanical maintenance, electrical maintenance, crane maintenance and mobile maintenance units, who will be using life lines in their work, received practical training from the company which installed the lines.
- TS 45001 OHS Management System Auditor Training was given to 32 employees, including Occupational Safety Specialists, OHS Internal Auditors and Lead Auditors.
- 78 personnel participated in the search and rescue training given by AFAD (Disaster and Emergency Management Presidency) at the AFAD Sakarya campus for emergency situations.

### **Systematic monitoring of OHS performances**

OYAK Mining Metallurgy Group companies systematically monitor their OHS performances through OHS Systematic Monitoring applications, including OHS board and subcommittee meetings, announced and unannounced safety tours, emergency drills, near miss incident applications, accident root

cause analysis, 5S, non-conformities findings and reporting.

Urgent measures are taken and implemented to eliminate any incidences of non-conformity. Erdemir and İsdemir systematically conduct occupational health and safety studies in line with the decisions taken in OHS boards. The OHS board met 11 times at Erdemir and 9 times at İsdemir in 2018. Furthermore, unit OHS and sub-board meetings were held in all units of the plants each month.

In 2018, at Erdemir, a total of 65 pre-announced and 43 surprise safety tours were carried out. At İsdemir, 25 pre-announced safety tours and 79 in-unit safety tours were carried out. Necessary improvements were carried following an evaluation of the potential dangers and risks identified during the safety tours.

In 2018, at Erdemir, an improvement of 98.7 was achieved following 10,977 danger and 187 near miss notifications. At İsdemir, rectifying work was carried out following 6,707 near miss incidents during the year, and 98% of the items determined as requiring improvement were completed. In 2018, 12,158 areas to be improved, which were collected from the OHS Systematics (Announced/Unannounced safety tours, Non-Compliance, Drill, the OHS Board Meetings), were also systematically monitored.

**OYAK MINING METALLURGY GROUP COMPANIES  
SYSTEMATICALLY MONITOR THEIR OHS PERFORMANCES  
THROUGH OHS SYSTEMATIC MONITORING APPLICATIONS.**

In order to provide order and discipline in the workplace by increasing participation and motivation of the employees through improvements in work safety, the working environment, efficiency and in machine performance, the 16<sup>th</sup> period 5S Scoring audits were carried out at 504 sites throughout İsdemir.

At İsdemir, work accidents and near miss incidents which occurred in workplaces and which could be taken as examples, were used to prepare the 35<sup>th</sup> and 36<sup>th</sup> Accident Sharing Presentations. The presentations were shown to 823 employees by drawing lessons from the same type of work accidents and near miss incidents, in order to ensure these accidents were not repeated. Since the systematic implementation, accident presentations were shared with 14,381 employees in 71 meetings in İsdemir.

The first of the accident sharing (information) meetings were held at Erdemir with the participation of 546 employees in 2018.

#### **Implementing best practice examples in the field of OHS**

Erdemir and İsdemir have been participating in the “Steel Safety Day” practice adopted by the World Steel Association (worldsteel) since 2014. In line with International Labor Organization (ILO)’s World Health and Safety Day, this practice aims to create a safer working environment in the entire steel industry.

In 2018, Erdemir and İsdemir carried out extensive audits in the plants within the scope of this application, which was implemented to strengthen awareness of the five most common causes of occupational accidents in the steel industry. After these audits, improvement plans were developed and implemented.

In 2018, regular evaluation and information meetings were held with OHS Professionals in all companies working at İsdemir.

At Erdemir, OHS Committee meetings are held with the subcontractor companies under a certain heading on a monthly basis.

The project efforts carried out in 2018 by the Excellence Model Total Safe Production Function, which was established for the purpose of carrying out accident-free production by developing a sustainable safety culture oriented around people and the environment, are as follows:

#### **Erdemir**

- The Behavior Oriented Safety Approach project

At Erdemir, in order to identify the main themes and behavior sets which employees need to internalize regarding occupational health and safety issues, to monitor this behavior and to systematically establish and develop a safety culture throughout the Company, the Behavior Oriented Safety Approach Project was launched. The objective of the project was determined as ensuring that the safety culture that is integrated with the support of the senior executives of OYAK Mining Metallurgy Group and the employees’ belief in the concept of safe steel production should be traceable, not only in thought but to the extent reflected

**ERDEMİR AND İSDEMİR HAVE BEEN PARTICIPATING IN THE “STEEL SAFETY DAY” PRACTICE ADOPTED BY THE WORLD STEEL ASSOCIATION (WORLDSTEEL) SINCE 2014.**

# OCCUPATIONAL HEALTH & SAFETY (OHS)

in behavior. At the end of this project, each employee will be able to perceive and evaluate the risks in their work associated with the environment, machinery and, most importantly, the human dimension, and to eliminate the risky behavior that is frequently encountered and to develop safe behavior instead.

Following the current situation analysis and focus group interviews carried out in 2018, the head engineer and 138 higher level managers in charge at the units which are within the scope were provided with training at the Training Centre. Training will be continued with foremen, engineers and then employees paid on an hourly basis.

In order to roll out the best practices under the leadership of team leaders, an effective communication policy was implemented and relevant user guides were prepared.

- Monitoring of level crossings and intersection points
- Fixed and portable radar application
- Posters to be attached to boards in various parts of the factory within the scope of efforts to establish a safety culture
- Supervising use of battery operated vehicles
- Carrying out special announced safety tours to transformer centers
- Organizing special safety tours for level systems, the PLC (Programmable Logic Controller) and DCS (distributed control system) rooms

## İsdemir

- The Behavior-Oriented Safety Management observation application that was initiated at the Iron Production Directorate was rolled out
- The EKED (Tag-Lock- Secure-Try) key application

- Investigation of the EKED application in other energy items (mechanical, hydraulic, pneumatic equipment etc.) besides electrical energy
- Preparation of a control/follow-up table including minimum standards for hydraulic rooms, the MCC (motor control center) and PLC rooms
- Checking of work equipment subject to legal periodic inspection and archiving of control forms
- Inspection of subcontractor companies
- Reducing the incidence of occupational accidents caused by the use of hand tools
- Monitoring of instant data received from the fixed type gas detectors on the central Scada screen
- Effective application of the 5S system

## Process Safety and Emergency Management

As required by the Regulation on the Protection of Employees from the Dangers of Explosive Atmospheres" and the "Regulation on Equipment and Protective Systems Used in Possible Explosive Atmospheres", which are part of the SEVESO activities, Explosion Protection documents were renewed in the regions where there was deemed to be a risk of explosion at the Erdemir and İsdemir sites. In line with the recommendations of the renewed reports, regions with explosion risk were detailed. The ex-proof properties of the equipment used in these regions and their conformity to the zone classifications were

**ERDEMİR AND İSDEMİR CARRIED OUT PROJECTS IN 2018 THROUGH THE EXCELLENCE MODEL TOTAL SAFE PRODUCTION FUNCTION, WHICH WAS ESTABLISHED FOR THE PURPOSE OF CARRYING OUT ACCIDENT-FREE PRODUCTION.**

re-reported and improvement activities were initiated for the ex-proof equipment, which were found to be non-conformant.

At İsdemir, section leaders were determined within the scope of Security Management System Studies which consist of 10 sections established in order to ensure process security, and pre-evaluation was done and information was given to the unit managers. Within the scope of İsdemir Emergency Management System, trainer and renovation of UAME (National Intervention Team) training was provided to the fire brigade team in 2018, and 121 in-unit drills were carried out.

At the beginning of 2018, under the coordination of the Directorate of Occupational Safety and the Environment, Erdemir Engineering finalized the P & ID (Process and equipment control and automation diagrams) drawings of all units within the scope of SEVESO by working in coordination with the relevant units in the field.

Hazardous Equipment Identification - Vade Mecum\*, DOW F & EI (Dow Fire and Explosion Index) and DOW CEI (Dow Chemical Exposure Index) - were carried out together with the units, followed by hazard identification (HazOp) for qualitative risk determination studies.

\* a handbook or guide kept constantly at hand for consultation.

The Erdemir Blast Furnace, Steel Works and Coke Gas Gasometers were examined within the scope of process safety. A risk assessment was performed and a report was prepared containing the relevant requirements and modeling study.

In this context, Safety Management System Basic and Internal Auditor Training was held on 2-4 October and 9-11 October 2018 for the Internal Audit of the SMS at Erdemir.

#### **Work conducted for ex-proof equipment**

In 2018, a total of 198 personnel were provided with general ATEX training, thereby raising the awareness of personnel working in units where there is ex-proof equipment.

ATEX training was provided to more than 198 personnel in 2018 in a bid to raise the awareness of the personnel working in the units where explosion-proof equipment is provided.

A separate Explosion Protection Document (EPD) was prepared for each of the hazardous areas where potentially explosive environments were formed in Erdemir.

Significant contribution to the safety of the facilities was made with training provided in the field of operation in order to prepare the Explosion Protection Documents (EPD) and the follow-up of this system.

In order to ensure that Erdemir and fire brigade personnel are ready for emergencies, 20 transitions, fire extinguishing and rescue drills were attended.

#### **Personal Protective Equipment**

OYAK Mining Metallurgy Group continued to provide world-class equipment for its employees which was appropriate to their working conditions, and carried out improvements when necessary, by constantly monitoring the performance of this equipment during their use.

**IN 2018, A TOTAL OF 198 PERSONNEL WERE PROVIDED WITH GENERAL ATEX TRAINING, THEREBY RAISING THE AWARENESS OF PERSONNEL WORKING IN UNITS WHERE THERE IS EX-PROOF EQUIPMENT.**



**The OYAK Mining Metallurgy Group exercises the greatest care in balancing the needs and expectations of all of its stakeholders with the approach of being a model corporate citizen and to fulfill its legal and ethical responsibilities in a timely manner.**

Erdemir and İsdemir establish a strong connection with society while providing benefits in social areas with its projects carried out throughout the country, particularly in the regions where it operates, and its activities aimed at contributing to society. In order to enhance its contribution to social development,

the Group gives priority to long-term, high-impact projects and activities with which it can develop cooperation with public institutions and non-governmental organizations. The Group seeks to touch human life in all areas such as the steel it produces, providing positive and lasting change, developing innovative solutions to meet social challenges while spreading beauty and enriching human life.

**ERDEMİR AND İSDEMİR ESTABLISH A STRONG CONNECTION WITH SOCIETY WHILE PROVIDING BENEFITS IN SOCIAL AREAS WITH ITS PROJECTS CARRIED OUT THROUGHOUT THE COUNTRY.**

### **Placing priority on activities in the field of education**

OYAK Mining Metallurgy Group companies - Erdemir and İsdemir - have played an important role not only in the economic development, but also in the social development of the regions where they operate. Erdemir and İsdemir, who have contributed to national education with a total of 9 schools to date, regard their activities in the field of education as a priority, carrying out various activities in order to support children of all ages culturally and artistically, as well as academically. Within this scope, free children's plays launched by Erdemir in 2009 have continued in the regions where İsdemir and Erdemir Maden operate since 2015. In this context, nearly 2,500 school pupils were introduced to the magical world of theatre in 2018.

### **Supporting schools in their regions with lessons in IT and coding - which are experiencing rapid development.**

Supporting the participation of high schools in robotics contests, Erdemir supported the Zonguldak Bülent Ecevit University's Space Team Grizu-263's participation in the CanSat competition, which is the most prestigious satellite competition in the world and held in the USA. The Grizu-263 won second place in the World at the CanSat. Erdemir also contributed to the New Horizons Science Workshop project supported by the Western Black Sea Development Agency at a high school in Ereğli.

İsdemir also provided aid to state schools in order to establish a reading hall to encourage children to develop a habit for reading, while also providing coding classes to strengthen their technological infrastructure. It also supported various projects such as the İskenderun Technical University's Electric Car Project.

Organizing the Steel and Life Sculpture Competition every two years in order to support the students studying sculpture at universities in Turkey, Erdemir extended its

support to the Akdeniz University and the Mimar Sinan University of Fine Arts, to expand the facilities of sculpture ateliers in 2018. It also provided steel for the academic studies of higher education institutions, especially metallurgy materials engineering departments.

### **Continued support for public institutions and non-governmental organizations**

In 2018, Erdemir and İsdemir continued to support the activities of public institutions and non-governmental organizations in their regions. Erdemir supported non-governmental organizations working for the benefit of the society, in particular the Physically Handicapped Association in Ereğli. Support was provided for furnishings in the Ereğli branch buildings of the Turkish War Invalids, Veterans, Martyrs' Widow and Orphans Association, the Mining Martyrs Association and the Foundation for Children with Leukaemia.

İsdemir also carried out activities such as providing the cleaning and electricity needs of the schools in the region, providing stationery and material support to various institutions, and providing lunch to school pupils in economic need.

### **Continuing studies to support biodiversity**

At the end of 2016, Erdemir continued to work on the "Let the Fields Be Ploughed, Let the Tradition Continue" biodiversity project in order to contribute to the increase of the cultivation of the Ottoman Strawberry, which was identified with the region, but whose production had largely diminished, in Ereğli.

**ERDEMİR AND İSDEMİR HAVE PLAYED AN IMPORTANT ROLE NOT ONLY IN THE ECONOMIC DEVELOPMENT, BUT ALSO IN THE SOCIAL DEVELOPMENT OF THE REGIONS WHERE THEY OPERATE.**

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