

# INNOVATION AND R&D

ENKA OPERATES WITH THE MISSION OF DESIGNING AND EXECUTING CONSTRUCTION PROJECTS THAT ARE SAFE, IN LINE WITH STANDARDS, HIGH QUALITY AND AT SUITABLE COST AND WITH THE VISION OF BECOMING ONE OF THE BEST AND MOST INNOVATIVE GLOBAL ENGINEERING AND CONSTRUCTION COMPANIES THAT PROVIDE SERVICES GLOBALLY.

In order to maintain its long lasting culture of design and innovation and to bring together the design and engineering activities executed with its experienced team under an umbrella department, ENKA established the Design Centre at its İstanbul Headquarters in 2016 and became the first Turkish construction company to be awarded the title 'Design Centre' by the Ministry of Science, Industry and Technology of Turkey.

The following three ENKA Design Groups in three different areas operate within the ENKA Design Centre:

■ Energy Engineering Design Group

■ Civil Engineering Design Group

■ Architectural Project Design Group

During the reporting period, the ENKA Design Centre carried out a total of 15 design projects. Seven of the projects were completed within the reporting period, and the remaining eight projects are still ongoing. ENKA allocated a total budget of TL 57,020,000 for the projects managed by the Design Centre and this budget was financed entirely by internal resources.

ENKA is well aware that its employees are the prime factor for integrating contemporary scientific and technological developments to the processes of the company. It therefore supports the participation of its Design Centre employees, consisting of 157 personnel, of which 111 are designers, in various conferences, symposiums and training activities. Accordingly, in 2019, Design Centre personnel participated in 8 conferences, 4 symposia and 26 training activities with a total of 175 personnel.

## INNOVATION AND R&D AT ÇİMTAŞ

In its second year as an R&D Centre, Cimtaz Pipe worked on 17 different projects with a multidisciplinary team of 44 employees including mechanical, chemical, civil, electrical-electronic, metallurgical, material, computer and industrial engineers. In the R&D projects of Cimtaz Pipe, the total R&D budget of which reached 662,950 Euros; the design and development of process, piping equipment and systems for energy, petrochemical plants, mega and specialised structures; the development of processes, methods, production methods and device design for emergence of innovative products, software development focused on Industry 4.0, digitalization and efficiency improvement tasks were completed.

Çimtaş Steel completed its third year as an R&D centre and carried out ten different R&D projects with a total R&D budget of TL 11,485,680 with its 42 employees.

On the other hand, Çimtaş Precision Machining came to the forefront in R&D studies with 4 projects that were supported by TÜBİTAK in 2019.



### TÜBİTAK-1501: DEVELOPMENT OF WROUGHT TITANIUM ALLOY AIRCRAFT PART (SPAR) PROTOTYPE AND OPTIMIZATION OF THE MANUFACTURING PROCESSES

**In line with its sustainable growth strategy for producing aircraft engine and body parts, Çimtaş Precision Machining has competitive strengths in the fields of modelling, process development and manufacturing management. GE wishes to set up new sources of suppliers in order to increase its competitiveness in production of aerospace parts therefore is considering demands from national and international markets. The main purpose of the project is the manufacture of a prototype spar fitting to be used in the fuselage of the Boeing 737 Max aircraft. In the context of this central goal, it is anticipated that technical and technological know-how will be acquired in the structure and processability of Titanium-Ti6Al4V materials, which will be used for the first time, and in related manufacturing techniques (processing, deburring, etching, NDT).**



## INNOVATION AND R&D AT ENKA SYSTEMS

ENKA Systems was certified as an "R&D Centre" by the Ministry of Science, Industry and Technology on December 8<sup>th</sup>, 2017 in accordance with the terms of the "Implementation and Control Regulation on Support of Research, Development and Design Activities".

The first R&D projects to be developed at ENKA Systems and approved by the Ministry were the BIM-Supported Document Management System and the Artificial Intelligence-Supported Procurement Management System. ENKA Systems is currently carrying out five different R&D projects with a total budget of more than 7 million TL.

Machinery and Equipment Management System, Human Resources Management System and Occupational Health, Safety and Environmental Management System projects which were developed by ENKA Systems have also been submitted as R&D projects. The software tools developed by ENKA Systems are as follows:

- Document Management System (EDMS)
- Global Procurement Management System (EGPS)
- Occupational Health, Safety and Environment Management System (EHSE)
- Welding Management System (EGWM)
- Project Management and Completion System (EPCS)

In 2019, ENKA Systems signed a cooperation agreement with Özyeğin and Marmara universities for cooperation in the areas of R&D activities and scientific and technological studies. In addition, a consultancy agreement has been signed with Marmara University for the provision of academic support for R&D projects being developed at ENKA Systems and the submission of national and international project applications.



### OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM (EHSE)

The development of the EHSE project began in 2018 and the system provides a solution for keeping records and reporting on occupational health, safety and environment. As of July 2018, Environment and Occupational Safety (Accident) modules were offered to the end-users and Health, Reporting and Dashboard modules were completed in 2019 and software was able to provide the outputs that were targeted at the beginning of the project. As of the end of 2019, the EHSE was adopted in all ENKA's active projects as the tool used for maintaining health and safety and environmental records and generating the necessary outputs for official reports.

The Health Module completed in 2019, retains records on the health, infirmary visits and prescription records of all employees as well as information on the medicines in the site polyclinic, the available stocks and consumption levels. It also makes all necessary calculations in these respects.

Using the Reporting Module, which was completed in the same year, special reports have been prepared that serve as the basis for all the reports and documents that have to be submitted to official authorities regarding environmental and occupational health and safety records and pivot reports have been developed enabling all the information needed at a certain point to be retrieved and calculated as required.

The Dashboard Module makes use of widgets on a screen to make it easier for users to view those reports which they are permitted to access in line with their authorisations. As soon as users enter the application, the module provides them with an overview of the projects with which they are responsible and authorised. The module has been designed to provide access to almost all of the reports defined in the EHSE by using a wide range of filter options.



## ISO/IEC 27001 INFORMATION SECURITY MANAGEMENT SYSTEM

All the processes, information and employees within the design and engineering, procurement and supply chain management, HSE, quality management, sustainability, machinery and equipment management, corporate communications, human resources and administration, information technologies, finance, accounting, financial control, exports and investor relations and legal departments at ENKA İstanbul Headquarters conduct their activities in accordance with the ISO/IEC 27001 Information Security Management System (ISMS) standard.

While conducting all its activities in the light of company's mission, vision, values and strategic direction; ENKA Senior Management is committed to protect information assets, meet information security requirements and expectations in accordance with international standards and improve information security performance by systematically managing its risks in order to ensure security of ENKA's organisational knowledge. Within this context, in order to ensure that business processes are managed and implemented on this basis, an Information Security Committee has been established reporting to the President and Chairman of the Executive Committee of ENKA and an infrastructure has been created in line with corporate policies and procedures, the company's mission, vision and values, its information security goals and the ISO 27001 ISMS standard. All ENKA employees and relevant third parties are expected to comply with the ISO 27001 processes and the related laws and regulations.

The following Information Security Goals have been adopted with the aim of ensuring that the established system remains effective:

- Developing technological infrastructure and maintaining business continuity,
- Integration of information security in business processes,
- Determining business risks related to information security,
- Increasing employees' awareness and motivation regarding information security,
- Establishing an internal information security organisation within the corporation and
- Improving ENKA managed services and ensuring continuity of its security.

### Management of Information Security Violations

ENKA's policies and procedures require all security violations that could be detrimental to the confidentiality, integrity and accessibility of information, to be reported. Violations of information security can be reported by all ENKA employees and relevant stakeholders. The person who notices the violation may report it by calling the ENKA Ethics Hotline (+90 212 376 1010) or filling in a violation form and submitting it to the Information Security Management System Administrator by email, by telephone or in person.





ENKA GROUP

ENKA 2027 SUSTAINABILITY GOALS

We will conduct Environmental, Ethics, Human Rights, Social and Occupational Health & Safety audits on 10% of suppliers that provide project materials, and are audited by independent third party companies which ENKA also works with, by 2027.

We aim to provide Ethics and Human Rights training to 100% of our white collar and 90% of our blue-collar employees by 2027.

We aim to increase our customer satisfaction rate for all group companies to 95% by 2027.

We aim to carry out at least one audit every year at every subsidiary and project to prevent corruption and bribery.

We aim for all students at ENKA Schools to participate in at least one social responsibility project every year.

We aim to continue organizing "ENKA Schools Sustainability Meetings" annually while also broadening its scope.

We will continue undertaking joint works with teachers at ENKA Schools to increase sustainability awareness.

We aim to win awards at national and international competitions in sports and arts with ENKA Schools.

ENKA SCHOOLS

2018

In 2018, ENKA evaluated 9.82% of its suppliers in terms of Ethics, Human Rights, Combating Bribery and Corruption, OHS, Environmental and Social issues. Sustainability audits took place at 1% of suppliers.

In 2018, special training sessions were provided on Ethics and Human Rights for 7% of our employees. 7.14% of white-collar employees have received training on ethics and human rights in working life.

91.91%

One audit took place at each project. 7.1% of subsidiaries were audited.

Target met

Target met

Target met

Target met

2019

In 2019, ENKA evaluated 24.4% of its suppliers in terms of Ethics, Human Rights, Combating Bribery and Corruption, OHS, Environmental and Social issues. Sustainability audits took place at 1% of suppliers.

In 2019, 28.7% of all ENKA group employees, 55% of white-collar employees, 20% of blue-collar employees completed ENKA Code of Conduct and Human Rights training.

90.52%

One audit took place at each project. 78% of subsidiaries were audited.

Target met

Target met

Target met

Target met