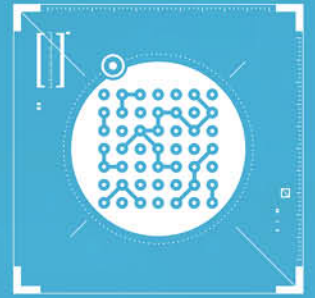


BIG DATA







STM Savunma Teknolojileri, Mühendislik ve Ticaret A.Ş.

STM was established in 1991 for the provision of project management, system engineering and consultancy services to the Defense Industry Agency (SSB) and the Turkish Armed Forces (TAF).

The SSB continues to be the majority shareholder in the company, which has a workforce of 850 people, 63 percent of whom are engineers.

STM is among the leading companies operating in the defense sector, and is engaged in projects, particularly in the fields of naval platforms, tactical mini UAV systems, cybersecurity and IT services, command and control projects, satellite technologies, military aviation, radar and electronic warfare, and procurement and consultancy services.

Aside from its involvement in many national projects being conducted by the Turkish defence sector, STM is also engaged in export and business development activities for NATO with operations in more than 30 countries.

In addition to acting as the main subcontractor in the MiLGEM Project for the development of Türkiye's first national corvette, STM is also carrying out the detailed design as the main contractor in the project for the construction of TCG İSTANBUL (F-515), Türkiye's first national frigate.

STM has undertaken important tasks in submarine modernization and construction projects for the Turkish Navy, and is also responsible for Türkiye's first submarine modernization export, taking the lead role in the Pakistan AGOSTA 90B project.

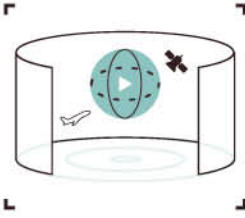
STM developed KARGU, Türkiye's first indigenous attack UAV System, and launched Türkiye's first Cyber Fusion Center in 2016.

Through the INTEL-FS2 Project, STM ensures the flow of intelligence between all NATO headquarters around the world, and is successfully engaged in one of Türkiye's largest software exports to the Organization.

STM diversifies its technology-based activities to meet the needs of the public and private sectors – in particular those related to the Turkish defense sector.

STM is headquartered in Ankara, the capital of Türkiye, and continues its operations out of nine facilities, located in İstanbul, Gölçük and Ankara, as well as Pakistan.

STM was for three consecutive years listed on the Defense News Top 100 list of the world's top 100 defense companies.



OVERA

Big Data, Data Science and Artificial Intelligence



STM OVERA is a big data analytics platform that was authentically and distinctively designed by STM engineers through using open source projects and supporting standards, does not depend on sole trader software package and specific hardware.

It allows you to make maximum use of Hadoop and ecosystem components by making minimal changes to your existing applications and systems. With STM OVERA, you can discover the potential of all the data you collect every day.

STM OVERA includes current Hadoop innovations and supports associated ecosystem components. It contains architectures that allow real-time and mass data processing of the last generation in its structure.



Data Transfer

- Sqoop
- Flume
- Kafka

Data Processing and Access

- MapReduce
- Spark
- Storm
- Samza
- Elasticsearch
- Pig
- Hive
- HBase
- Cassandra
- Neo4j
- MongoDB
- OpenTSDB
- InfluxDB

Configuration Management and Monitoring

- Apache Warehouse

Data Management and Storage

- HDFS

Work Scheduling

- Oozie

Data Lifecycle Management

- Apache Falcon

Vehicles

Apache Warehouse

IPython Notebook

STM OVERA Big Data Analytics Platform supports Batch Data Processing + CUDA infrastructure running on Hadoop YARN. It has a scalable HPC infrastructure and has Mobile Data Processing Capability to run Machine Learning and Data Science algorithms on the Big Data Analytics Platform.

By providing the Internet of Things infrastructure, STM OVERA supports MQTT and COAP protocols with Maximum IoT Communication Protocol Support, DIM data processing and query capability.

STM OVERA offers support for 34 different visualisation platforms:

PolyMaps, NodeBox, Flot, Processing, PProcessing.js, D3, Tangle, FFChartWell, GoogleMaps, Raphael, LinkScape, Leaflet, CrossFilter, OpenLayers, Kartograph, Modest Maps, Gephi, Flare, Envision, Miso, TimeLineJs, Tableau, Quadrigram, Prefuse, Many Eyes, CytoScape, NetworkX, ArborJs, iCharts, DataBoard, Dapresty, JoliCharts, VisualizeFree, Lumify.

STM OVERA includes products that can serve in the following four main areas and services that can be provided to institutions within the scope of these products:

- Data Management Infrastructure
- Data Organization and Transfer Operations
- Analytical Services
- Decision Support Services

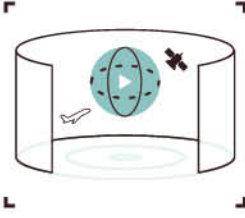
STM OVERA has an infrastructure that can work in many different sectors such as energy, finance, smart city and health.

STM OVERA includes the necessary protocol support and architectural components for data analysis by collecting data from any data source:

- Text files
- Relational databases (Oracle, MSSQL, MySQL, PostgreSQL etc.)
- Non-relational databases (NoSQL)
- Fluid data sources (IoT protocols such as MQTT, CoAP, log files etc.)
- Image and video sources

Main Service Areas

- Data Science
- Cyber Security
- Swarm Intelligence
- OSINT / SIGINT / IMINT
- Sound Processing
- Image Processing
- Video Processing
- Civil Aerospace
- Image Processing (Multi/ Hyper Spectral Img. Processing)
- Inventory and Material Information
- Business Analytics
- Data Visualisation
- Data Fusion



FLEETICS

Smart Fleet Analytics

Fleetics performs fleet health monitoring with an innovative process. With the techniques based on artificial intelligence and machine learning methods, we transform the data collected from the vehicles into information, and offer a high level user experience by providing situational awareness and using different operator interfaces.

From Big Data to Qualified Data

Fleetics allows you to control all of the components of your vehicle. Offers advanced data science analyses based on rich and high-quality data obtained from your vehicle. In addition to real time failure and warning notifications, it also provides predictable maintenance information. It reduces the usage and maintenance costs of a vehicle. It increases the effectiveness of operation through the unique and valuable information it provides and it is capable of providing advanced machine learning and deep learning analysis results.



TIME OF OPERATION

- It supports the uninterrupted operation of your vehicles.

INSTANT STATUS INFORMATION

- It provides instant failure information based on the data received from hundreds of sensors. It provides you with more information about your vehicle by establishing instant access to the warnings defined by the user.

ADVANCED ANALYSES

- It provides enhanced and rich visual reports using big data analytical methods.

GEOGRAPHICAL POSITION

- It visualizes the instant basic tracking of your vehicles.

MAINTENANCE PLANNING

- Thanks to its continuous monitoring capability, it allows you to plan maintenance operations at the most appropriate time and under the ideal conditions to prevent work loss.

REMOTE UPDATE

- No need to go to a service station for software updates. Updates are controlled from software center.

SECURITY

- Covered by secure systems to prevent cyber attacks.

USAGE-BASED INSURANCE

- It allows you to make most suitable insurance contracts for your vehicles based on full access to vehicle usage and maintenance information that can be shared with the people you want.

DRIVE INFORMATION

- It provides you with information about the driving characteristics and driving score cards of your drivers and permits the performance of driving style analyses for reward and training, encouraging an optimum driving style.

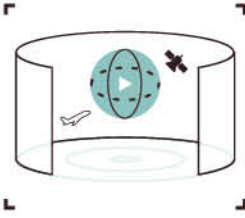
CUSTOMER SATISFACTION

- It increases the level of post-sales communication and satisfaction, as the vehicle data can be accessed both by the vehicle manufacturer and the vehicle owner.

Ensures perfect operational performance through planned and efficient usage based on detailed reports.

Big Data + Correct Analyses = Fleetics





ROUTEAI

AI-Supported Route Optimisation

RouteAI is a collection of artificial intelligence-supported services that help users assign teams based on their response time, regardless of location. By analysing the traffic, roadworks, and accidents etc. between the team locations and the call address, the system is able to provide real-time solutions. Instantaneous changes and disturbances that occur during the process of finding an optimal solution are also taken into consideration.

Based on demands related to scheduled maintenance services, RouteAI helps optimise the routes of your teams and increases efficiency.



Blockchain Technologies

Blockchain at STM

At STM, we combine our knowledge and expertise gained in identity systems, electronic identity verification infrastructure, web and mobile application development fields with the infrastructure, implementation, security and privacy analysis, and business models of blockchain technologies to develop products and solutions that can meet the needs of the Public and Private Sectors through R&D and Product Development activities.

Capabilities

- Blockchain-based Electronic Identity Verification Solutions
- Blockchain-based Trade Applications
- Blockchain infrastructures and platforms
- Cryptographic algorithms and protocols
- Blockchain R&D studies

Products | Solutions

e-Künye

Blockchain-Based Digital Identity System



A distributed digital identity system based on blockchain that allows individuals to create a digital identity profile compatible with the data of the Republic of Turkey Identity Card (TCKK) and enables them to control who has access to their identity data and decide which information to share with whom.

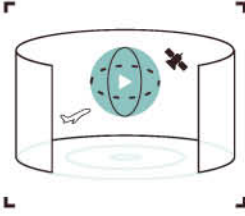
TTZ (Turkish Trade Chain)

Blockchain-Based Turkish Trade Chain



A blockchain system that records the processes and documents of goods in import/export transactions, allowing all parties involved in the foreign trade process to access data simultaneously, preventing data alteration and duplication, ensuring fast and transparent access to accurate data, resolving trust and document sharing delays between parties, and digitizing all trade processes.





Predictive Maintenance

The development of Big Data and Artificial Intelligence technologies has influenced the concept of maintenance, leading to the emergence of Predictive Maintenance.

Predictive Maintenance aims to predict potential failures on a platform by analyzing data collected from sensors. This enables taking preventive measures before the failures occur. Instead of performing maintenance at predetermined intervals, maintenance is carried out when necessary based on the monitoring of data, reducing lifecycle costs.

The main advantages of this strategy, especially for platforms with high maintenance costs, are reducing maintenance expenses and increasing platform reliability.

Our expertise in maritime, aviation, and land platforms is supported by big data, artificial intelligence, sensor development, the Internet of Things (IoT), and optimization techniques and technologies.



NLP Toolkit

NLP (Natural Language Processing) is a branch of artificial intelligence used by computers to understand and generate human language. The NLP Toolkit includes a series of software tools designed to facilitate the work of users in this field.

The NLP Toolkit encompasses algorithms, data structures, and user interfaces developed to perform various NLP tasks. It also provides advanced functions for processing and analyzing text data to developers. It includes software tools such as text classification, abstractive summarization, text summarization, text similarity, language detection, event detection, PDF-to-Text conversion, Speech-to-Text conversion, sentiment analysis, keyword extraction, and named entity recognition.

The NLP Toolkit is designed to accelerate and enhance NLP projects for researchers, developers, and data scientists working in the field of NLP. It offers a user-friendly interface and automates the functions necessary for NLP projects. Additionally, it can be used to add new NLP tasks or customize existing tasks due to its extensible structure.

By providing a powerful solution for processing, analyzing, and comprehending text data, it enables easier and faster development of NLP projects.



STM SAVUNMA TEKNOLOJİLERİ MÜHENDİSLİK VE TİCARET A.Ş.

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