AUTONOMOUS FARM TECHNOLOGIES AND MANAGEMENT

OUR STORY

2004

We established Eskişehir Laser company with the aim of advancing in the high-tech laser cutting and welding field, and started our activities as a subcontractor in the automotive and industrial kitchen sectors.

2017

We began our production of milk cooling tanks under the brand SETUAY and entered the agriculture and livestock sector.

2018

By making our first export of milk cooling tanks and now exporting to over 36 countries, we took the first step in our exports and globalized our brand.

2021

We have commenced the R&D activities for our first product, the milking robot, which is the initial product of our project 'Autonomous Farm Technologies and Management'.

2023

In 2023, we established the SETUAY R&D Farm to test the first real prototype of our milking robot, and we commenced our testing procedures.

OUR MISSION, VISION AND VALUES

MISSION

We are committed to meeting the needs of our customers by offering **high-quality** products and **continuously improving** our production processes with **innovative approaches**, aiming for a **sustainable future** and being a **reliable** business partner.

VISION

We aim to redefine industry standards with every product we produce, striving to become a **leading brand** in the global market. Taking into account **customer satisfaction**, as well as our **social and environmental responsibilities**, we endeavor to contribute to a **sustainable future** and **societal benefit**.

7000m2 Manufacturing Facility

+100 Employees

Industry Leader

Export to +36 Countries

VALUES

INNOVATION

We strive to continuously generate new ideas and develop advanced technologies.

CUSTOMER FOCUS

We work to understand our customers' needs and provide them with the best solutions.

ADAPTABILITY

We continuously improve ourselves by adapting to rapidly changing technology and market conditions.

QUALITY

We are committed to delivering high-quality products and services to ensure customer satisfaction.

SUSTAINABILITY

We work towards a sustainable future by fulfilling our environmental, social, and economic responsibilities.

TEAMWORK

We support each other's strengths and develop our weaknesses through collaboration.

MILK COOLING TANKS

WE DERIVE OUR STRENGTH FROM THE TECHNOLOGY WE UTILIZE

At SETUAY, we conduct our operations with high-tech equipment.

FROM 125 LITERS TO 25,000 LITERS MILK COOLING TANK

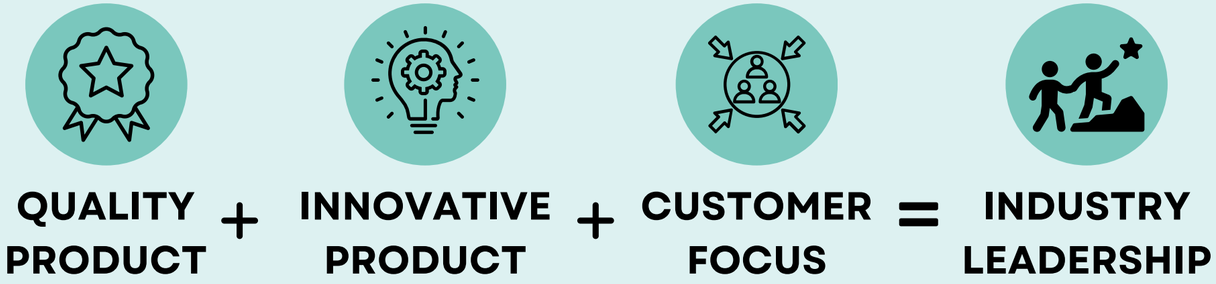
We continue our production in milk cooling tanks as well as dough fermentation systems, fruit juice tanks, milk vending machines, boutique-type milk pasteurization, ice cream, and cheese production systems. Our products have gained recognition and demand in a short time, especially in the livestock and food sectors.

SETUAY MILKING ROBOT

THE FIRST PRODUCT OF OUR ”AUTONOMOUS FARM TECHNOLOGIES AND MANAGEMENT" PROJECT:

SETUAY MILKING ROBOT

Our commitment to quality and innovation has enabled us to play an active role in livestock sector, becoming an integral part of the industry.



Thanks to our interactive customer communication skills and solution-oriented approach, we have been able to identify industry shortcomings and problems more clearly.

GENERAL INFORMATION ABOUT SETUAY MILKING ROBOT

Robot Capacity: 60-65 Cows

Free Cow Traffic:

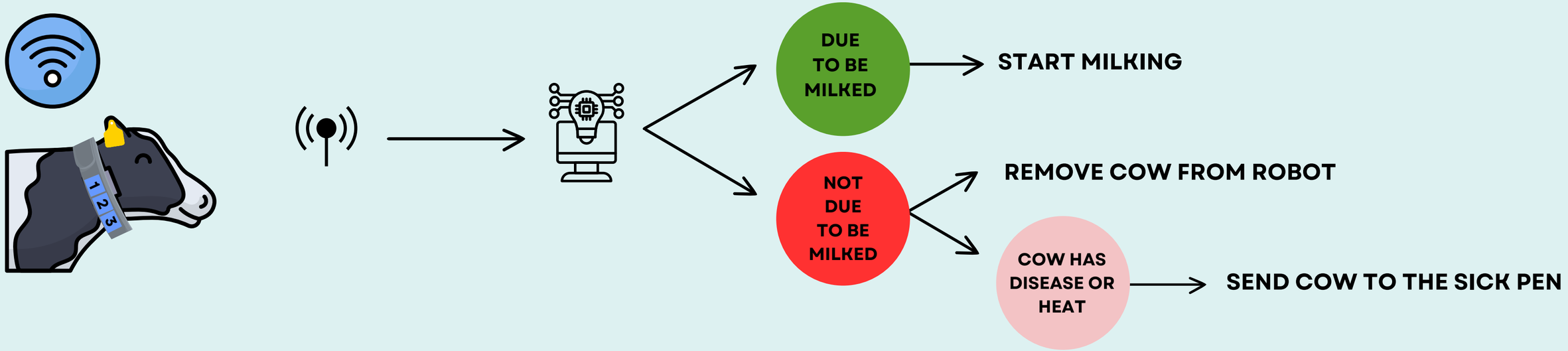
With free cow traffic, cows voluntarily approach the robot for milking at their preferred times.

Cows that are not due for milking are encouraged to leave the robot by an air pressure given from the cow's back, based on information obtained from herd management.

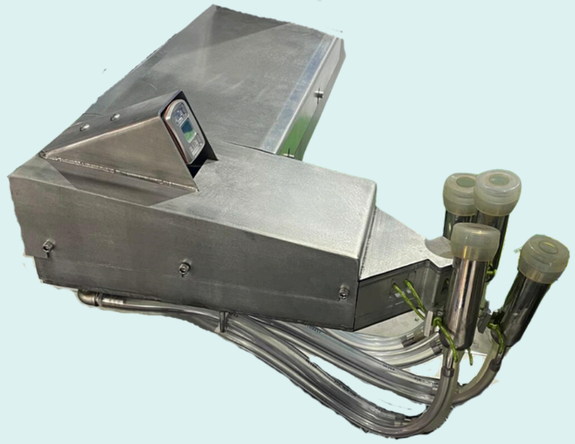
We do not consider using **electric current** appropriate for animal health.

COW ENTRY TO THE SETUAY MILKING ROBOT

IDENTIFICATION OF THE COW TO THE ROBOT



COW ENTRY TO THE SETUAY MILKING ROBOT



Identification of the cow's position and detect of teats:

To enable the robot arm to enter underneath the animal without causing harm, encoder information is used. This prevents any contact between the arm and the cow depending on the movement of the animal inside the cabin.

AI SUPPORTED TEAT CUP DETECT SYSTEM

Precision Identification

Adaptive Compatibility

Improvement of the Milking Process

Data Collection and Analysis

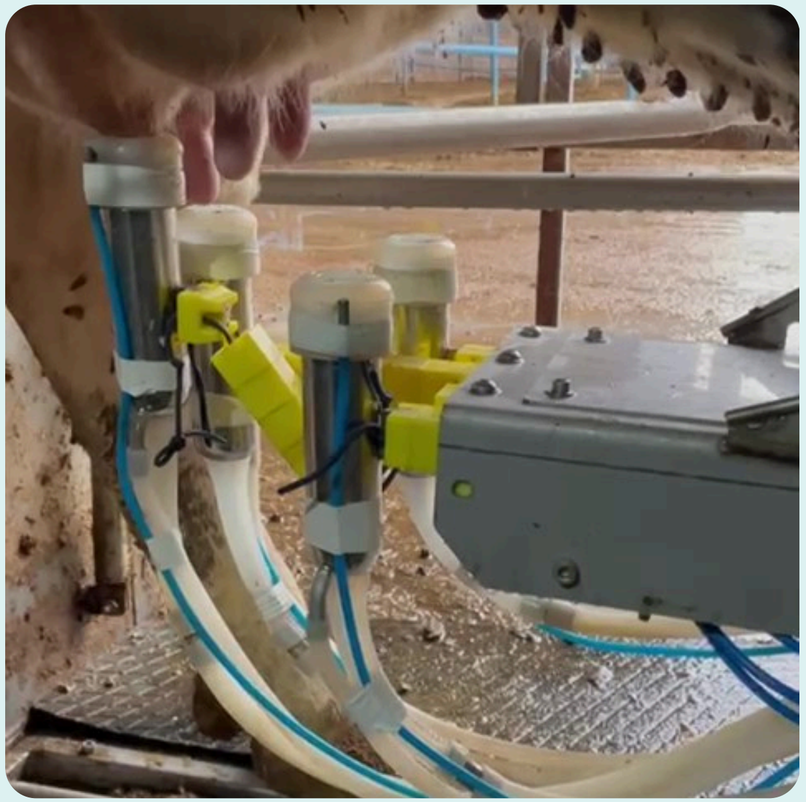
Error Detection and Notification

COW ENTRY TO THE SETUAY MILKING ROBOT

Washing, Drying, and Commencing Milking of the Udders:

After the teat cups are attached, the washing process begins, and the teats are cleaned. Then, the teats are dried with air, and once this process is completed, the milking process starts.

All these procedures are performed by the same teat cup.



THE MILKING PROCESS STEPS

Storage and Separation of Milk:

The milk obtained is stored in SETUAY milk cooling tank.

If the herd management has previously given the command to separate the milk in the robot, the milk is separated into other tanks.

Individual Feeding:

Individual feeding is carried out during milking.

According to the information obtained from herd management, feeding of 3 types of feed and 1 liquid feed can be provided.

POST-MILKING PROCEDURES

HYGIENE

We offer an innovative solution for enhancing animal welfare through ozone-based teat cups disinfection.

Hygiene of the Milked Cow:

After each milking, foot hygiene is ensured with ozonated water provided from the base of the robot.

The herd management system provides warnings based on parameters such as health index and heat detection. If there is a problem detected after milking, the cow is separated to the sick pen area and is not released back to the herd until attended to by a technician

When the teat cups return to the home position, they are disinfected with ozonated water to prevent cross-contamination in the next milking.

POST-MILKING PROCEDURES

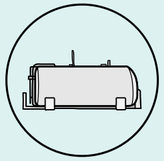
HYGIENE

Cleaning of the Lines:

To prevent bacterial formation when there is no cow entry for 45 minutes, all lines through which the milk passes (excluding the milk line between the robot and the tank) are washed with ozonated water.

If there is no milking for 2 hours, the line up to the tank is also washed.

Approximately every 8 hours, the entire system (including the line to the tank) undergoes a hot water wash with acid-alkaline detergent.



STORAGE

Storage of the Milked Milk:

The milk collected in the milk collection SETUAY tank after milking is transferred to the milk cooling tank.

TECHNOLOGICAL INNOVATIONS

THE INNOVATIVE ASPECTS OF SETUAY MILKING ROBOT

Reducing energy and water consumption of the milking robot and cooling tank

AI supported energy management system

Improving milk quality and enhancing animal welfare

AI supported precision herd management system

ENERGY MANAGEMENT SYSTEM IN AI-ML

When developing our robot, our priority has been **to reduce electricity and water consumption of the milk cooling tank,** improve the quality of the milk harvested, and enhance animal comfort.

ENERGY AND WATER SAVINGS:

To achieve energy and water savings, **inverters, pre-milk coolers, ozone generators, and heat recovery units** are used in our milking robot and milk cooling tank system. All these equipment related to energy management are not optional, they will be standard in all our robots sold.

Through our developed artificial intelligence-supported energy management system and precision herd management system, sensor data is analyzed to determine optimal operating strategies. Data is optimized to increase environmental sustainability.

GREEN SAVINGS

At SETUAY, we have made it our mission to prioritize environmentally friendly production. Therefore, with the **solar panels installed at our production facility,** we convert the power of the sun into green energy, doing our best to provide a better life for future generations.

PRIORITIZING GREEN INITIATIVES IN OUR ROBOT

Our brand offers users green transformation services, such as utilizing the network water passing through the pre-milk cooler during the rinsing phases of the tank and robot, and recovering the energy expended for cooling high-temperature gas in the cooling system in the heat recovery unit.

Compared to competing robots, the amount of **water decreases by 48% and electricity consumption by 41%.**

AI SUPPORTED HERD MANAGEMENT

Artificial intelligence-supported herd management systems provide the opportunity for early intervention by continuously monitoring the health status of animals. This increases animal welfare and reduces the risk of stress and disease. Healthy animals produce higher quality milk and increases efficiency in the operation.

COMPREHENSIVE ANALYSIS

At the herd, group, and individual level; pedigree information, milk and fertility performance characteristics, live weight, feed consumption, and health status are analyzed.

RECORD KEEPING

Planning of veterinary tasks, entering health records.

PROGRAMMING

Evaluation of past herd renewal activities and planning of future culling operations.

DISEASE DETECTION

Providing diagnosis of suspected mastitis cases and various metabolic diseases at the early stage based on milk yield, electrical conductivity, milk temperature, and number of days milked.

AI SUPPORTED HERD MANAGEMENT

DETERMINATION OF STRESS THRESHOLD

Determination of the temperature stress threshold based on air temperature and relative humidity values. Prediction of potential effects of heat stress on early pregnant or newly inseminated cows.

INDIVIDUAL FEEDING MODELING

Programming based on the animal's milk yield, lactation period, body weight, and body condition.

PLANNING FOR THE FUTURE

Evaluation of past herd renewal activities and planning for future culling operations.

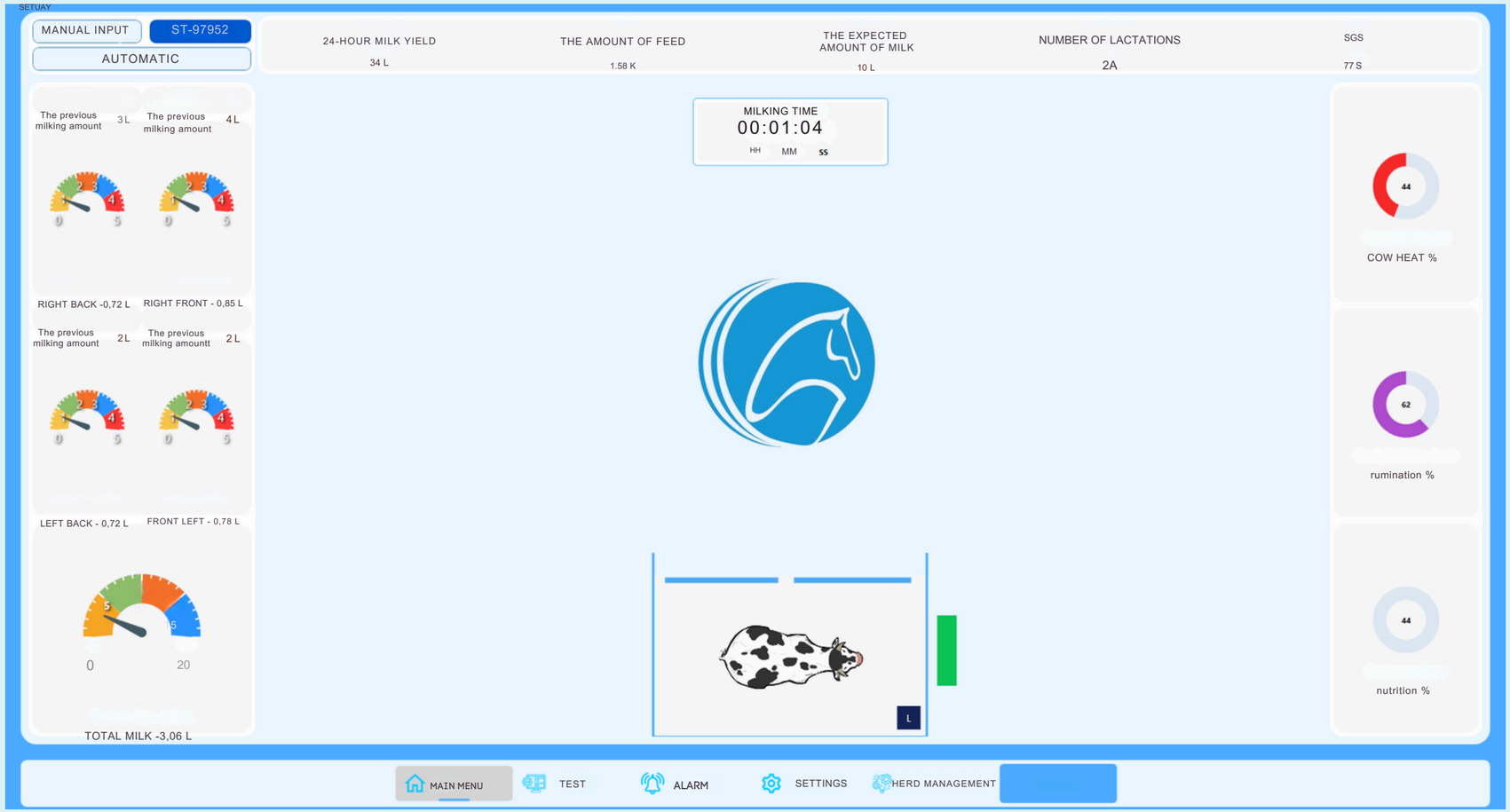
HEAT DETECTION

Heat detection based on activity, milk yield, electrical conductivity, and cervix.

AI SUPPORTED HERD MANAGEMENT

ANALYSIS

During milking, milk from each teat passes through separate milk meters to obtain data such as milk temperature, electrical conductivity, and milk quantity specific to each teat.



CUSTOMER BENEFITS

TARGET AUDIENCE

Large Farms and Industrial Operations:

Large-scale dairy producers may show interest in milking robots to increase efficiency and reduce labor costs. These operations typically focus on fully automated systems and high-efficiency products.

Medium and Small-Scale Enterprises:

Medium and small-scale enterprises seek flexibility and cost-effective solutions. Modular and more economical milking robots may be more attractive to these businesses.

Customers Sensitive to Technology and Sustainability:

Customers who value technology and sustainability may show interest in milking robots. Those who aim to improve animal welfare, increase operational efficiency, and reduce environmental impacts may prefer milking robots

AUTOMATIC MILKING

Increased Efficiency

A faster and more efficient milking process

Animal Welfare

Gentle milking reduces animal stress

Labor Savings

Reduces the need for human labor and labor costs

Time Flexibility

Allows for the creation of a more flexible work schedule and facilitates business management

Data Collection and Monitoring

The data collected during milking allows business owners to:

- Monitor the health status of animals,
- Evaluate milk productivity, and
- Optimize farm management

Hygiene

Before and after each milking, the milking equipment is automatically cleaned and disinfected

YOUR FARM DATA IS SAFE WITH “US”

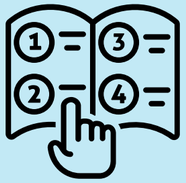
Data privacy on farms is one of our top priorities.

We use a system that allows only our customers to view farm data, ensuring their safety and privacy. With this system, farm owners can access their data at any time and choose to share it only with designated individuals if they wish.

In our SETUAY milking robot, farm data is completely protected under our customers' privacy and cannot be accessed by any other entity or user."

CUSTOMER SUPPORT AND SERVICE

Training and User Manuals



- Explanatory user manuals,
- Step-by-step instructions,
- Comprehensive training on product installation, usage, and maintenance.

Spare Parts and Accessories

- Any part or accessory related to our product is easily accessible.

Technical Support Hotline and Customer Service

- Accessible technical support hotline and customer service,
- Expert personnel capable of resolving issues quickly.

Warranty and Extended Warranty Options

- We offer long-term warranty options for our product. Additionally, we provide customers with the option to extend the warranty period for added security.

Expert Technical Team

- We provide professional support to customers for product installation, troubleshooting, and maintenance with our team of expert and experienced technical personnel.

Feedback and Improvement

- We continuously improve our products and services by taking into account the feedback from our customers.

SETUAY

THANK YOU!

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