



Smart ventilation, Measurable comfort.

AI supported adaptive climate
control for healthier farms.



Wireless
Setup



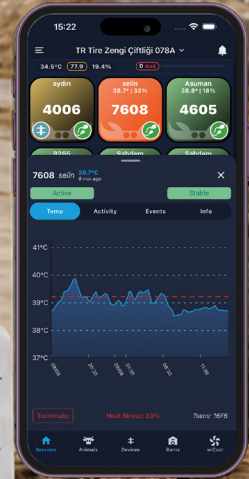
Adaptive Fan
Control



Real Time
Monitoring



Cloud
Access



 wicow.io

PRECISION INSIDE
COMFORT OUTSIDE

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What is **wiCool** ?

wiCool is a smart cooling system designed to help dairy farms **manage heat stress** more effectively and efficiently.

By analyzing real-time environmental conditions and automatically controlling fans and cooling equipment, it maintains optimal comfort for cows while reducing unnecessary energy and water use. This supports healthier animals, improved productivity, more efficient farm operations, and sustainable dairy production.



Cloud
Visibility



Environmental
Monitoring



Adaptive Fan
Control



Animal Based
Data

About us

Build with passion. Driven by purpose.

muTech GmbH was founded in 2019 in Hannover with the vision to revolutionize livestock monitoring through data-driven technologies.

We are a global engineering company developing intelligent technologies that make invisible health and heat stress challenges in dairy farming visible, measurable, and actionable.

Driven by a passion for animal welfare and precision livestock farming, we have spent the last decade transforming scientific research into practical solutions that improve productivity, sustainability, and farm profitability.



Smart Monitoring

wiCool continuously monitors barn conditions and transforms environmental information into practical decisions for ventilation management.



Heat Stress Visibility

Monitor temperature, humidity, air quality and THI in real time.



Smart Farm Management

Live dashboards, zone-based overview, faster response and better decision-making.



Practical & Scalable Technology

Wireless architecture, easy expansion, and simple deployment without complex extra wiring.



wiCool turns environmental data into actionable ventilation decisions.

wiCool

System Setup

wiCool uses a Control Box, wireless FanDrivers, environmental sensors, and cloud/mobile access to create an adaptive ventilation system that responds to real-time barn conditions.



How wiCool works ?

1

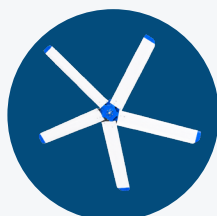
Barn Sensors



Temperature, humidity, air quality and THI are monitored continuously.

2

Fan Drivers



One wireless FanDriver per fan, no extra cabling needed.

3

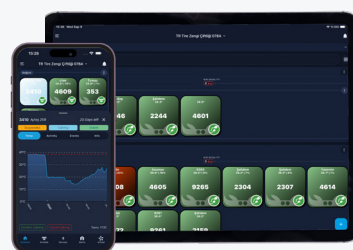
Control Box



Processes all inputs and coordinates adaptive ventilation decisions.

4

wiCool App



Farmers access live data, alerts and system visibility anytime, anywhere.

Reliable monitoring



Continuous, accurate tracking of barn conditions for smarter decisions and healthier cows.

Easy Deployment



Wireless devices and simple setup reduce installation time and cost—no extra cabling.

Efficient Performance



Adaptive ventilation improves animal comfort, lowers heat stress, and enhances productivity.

Heat Stress Management

wiCool provides a detailed view of heat stress conditions across the farm, enhances existing mechanical ventilation by adding an intelligent responsive control layer, and helps improve barn comfort through data driven cooling decisions.



ILLUSTRATIVE EXAMPLE ⓘ

Dairy Farms - 1.200 Cows

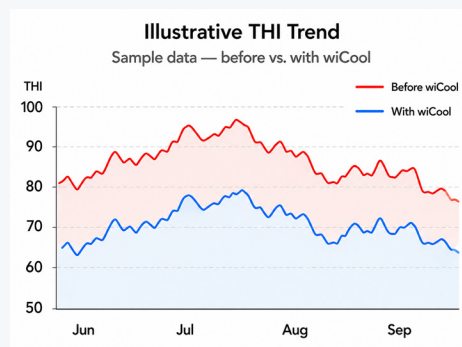
Summer 2024

📍 Lombardy, Italy

“ These results are based on simulated data to illustrate the potential impact of wiCool. ”

Example Scenario

THI Trend – Before vs. With wiCool



Illustrative only
↓
Potential THI Improvement

Avg. THI (Day)



Lower heat load during the day.

Ventilation Efficiency



Smarter fan activation.

Milk Yield



More milk, healthier cows.

Heat Stress Events



Fewer extreme heat events.



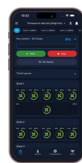
Before Cooling

High THI, cows stressed, lower performance.



During Cooling

wiCool adapts ventilation in real time.



Alerting

Real-time alerts and insights to act fast.



Better Results

Improved comfort, health & productivity.



Potential Result

More consistent performance

Results vary by farm and system configuration.

Intelligent Data Fusion

wiCool fuses barn climate data and real-time animal response data from Tsens to understand the **true cooling needs of the herd**, enabling smarter ventilation decisions, reduced stress, and improved productivity.



1. Entrance & Exit Temperature / Humidity

Track temperatures and humidity at barn entrances and exits to measure ventilation effectiveness in real time.



2. Air Quality Monitoring

Monitor ammonia, CO₂, and other key parameters to ensure cleaner air and healthier respiratory conditions.



3. Body Core Temperature from Tsens

Capture real-time core body temperature from cows to detect heat stress early and accurately.



4. THI Tracking

Continuously calculate and track THI to understand heat stress levels and their impact on animal performance.



5. Continuous Monitoring

24/7 real-time monitoring ensures no critical change is missed—keeping your herd safe around the clock.



6. Actionable Insights

Smart alerts and data-driven insights help you respond faster, optimize ventilation, and improve outcomes.



+



=



Environment + Animal = True Understanding
Better decisions. Healthier cows. Stronger farms.



From Data to Action

Adaptive climate control that
works in real time.

wiCool automatically adjusts fan
performance in each barn zone
using real-time data fusion to deli-
ver the best possible environment
for your cows.



1) Current barn conditions

Real-time temperature, humidity and THI in every zone.



2) Air quality

Monitors ammonia, dust and CO₂.



3) Heat stress risk

Predicts heat stress using advanced algorithms and trend analysis.



4) Actual animal response

Uses real-time health and activity data from Tsens to validate
results.

The result:

wiCool transforms traditional ventilation into an intelligent,
animal-centered climate control system.

wiCool Advantage

Smart insights. Healthier herd.

Real-time visibility. Instant alerts. Smarter decisions.
Better results for your farm, every day.



1

Access to wiCool Gateway



Live dashboards

Monitor every barn in real time.



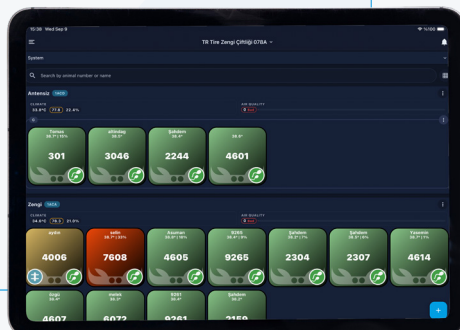
Heat stress map report

Visualize risk zones and act proactively.



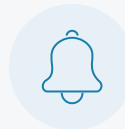
Trends and reports

Track performance and drive continuous improvement.



2

Instant Alerts



Critical heat stress alerts

Get notified the moment it matters.



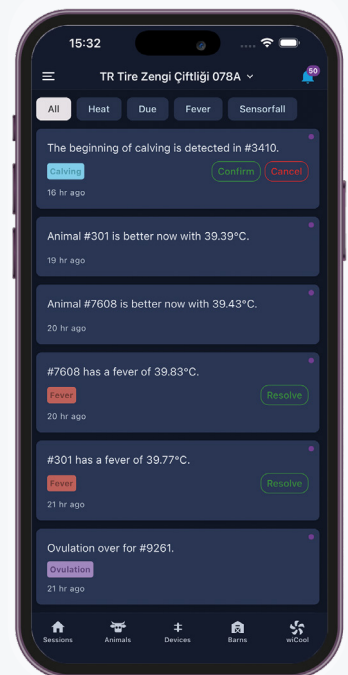
Malfunction warnings

Detect issues early, avoid downtime.



Visibility for decision making

Make confident decisions, faster.





3

Economical Benefits



Reduced installation costs

Simple wiring, fewer components.



Lower hardware investment

High performance, better ROI.



Flexible deployment

Fits any barn size or configuration.



Faster setup & scalability

Expand as your farm grows.



Fan Drivers



Environmental Sensors



Control Box



Cloud & Mobile Access



4

Expert Support



Technical support

Get help from experts who understand your farm.



Onboarding & training

Easy start, confident use.



Quick response

Fast solutions when you need them most.



Regular updates

Always improving, always ahead.



Reliable partnership

We're with you for the long run.



We don't just deliver technology,
we deliver peace of mind and results.



With **wiCool**, healthier barns, smarter farms

We combine intelligent climate control and real-time insights to help you reduce heat stress, improve animal comfort, optimize ventilation, and build a more efficient and sustainable future for your farm.

Thank you for being part of the future of
smart farming.



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