

BROLIS

HERDLINE

Advanced In-Line Milk Analyzer and Its Applications

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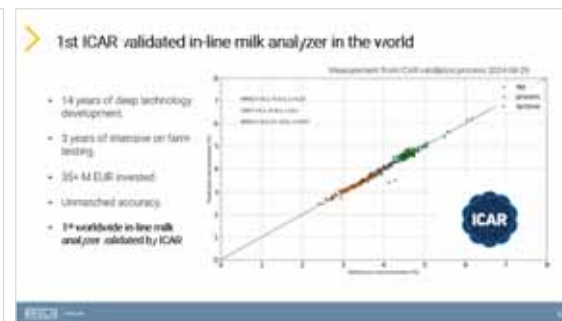
> History of Brolis in-line-milk analyzer development

2022

BHL01 First field tests in the farms

2024

ICAR validation tests for BHL01



more than 150 units installed

2023



BHL02 - second generation of the analyzer introduced

2025

> ICAR Conference 2023 / Toledo



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

In-line real-time milk composition analysis by tunable laser spectroscopy for dairy farms

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> ICAR validation certificate (2024-2025)

Evaluation of the accuracy/repeatability/reproducibility of measuring component(s) of the system

- Overview of results of two selected (at random) devices on bias, regression, R^2 , homoscedasticity and standard deviation

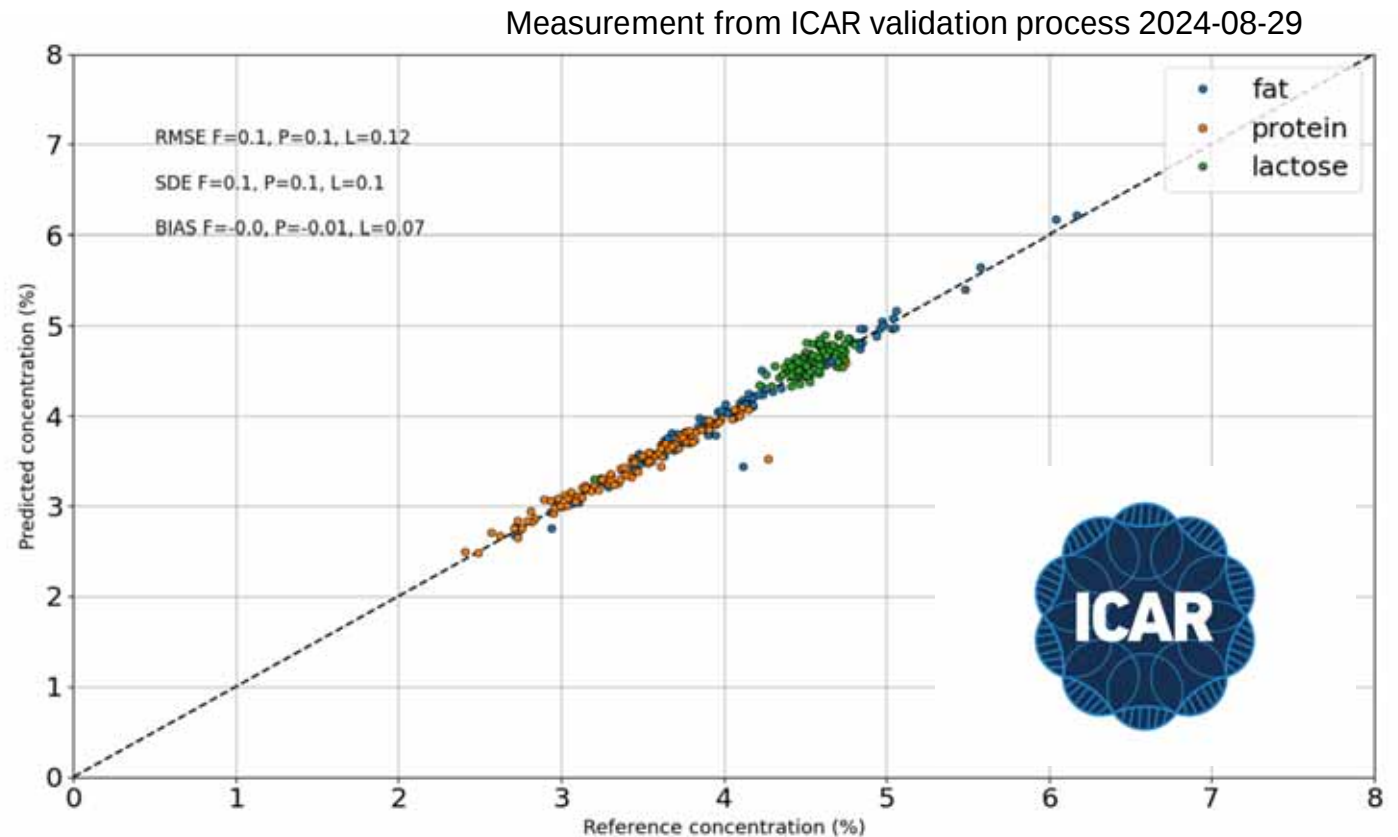
Device	Parameter	Bias	Regression Line	R^2	Homo-semanticity	Standard Deviation
MLK0502	Fat%	-0.002%	$Y = 0.0118x - 0.0504$ (ns)	0.0062	Yes	0.099
MLK0502	Protein%	-0.006%	$Y = -0.0994x + 0.3353$	0.2073	Yes	0.098
MLK0514	Fat%	-0.08%	$Y = 0.0522x - 0.3012$	0.2144	Yes	0.084
MLK0514	Protein%	-0.02%	$Y = -0.1073x + 0.3318$	0.1496	Yes	0.075



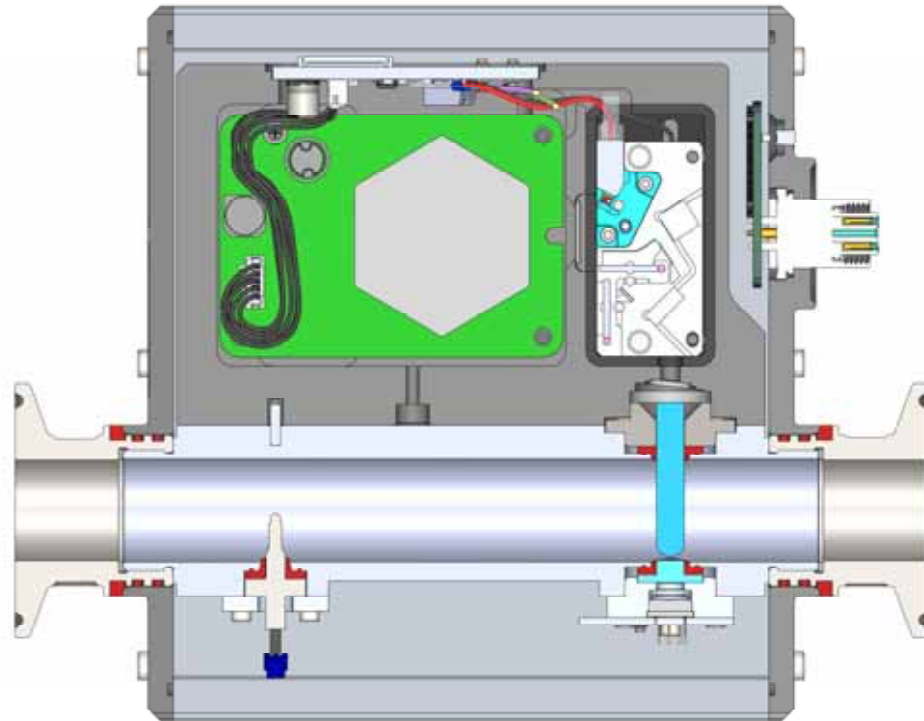


1st ICAR validated in-line milk analyzer in the world

- 14 years of deep technology development.
- 3 years of intensive on farm testing.
- 35+ M EUR invested.
- Unmatched accuracy.
- 1st worldwide in-line milk analyzer validated by ICAR



> Market ready product – Brolis In-line Milk Analyzer BHL02



> 3A Sanitary Certificate



Initially issued: 03/24/2025

Certificate No.: 96

3-A Sanitary Standards, Inc.

**Replacement Parts and System Component
Qualification Certificate**

This is To Acknowledge That

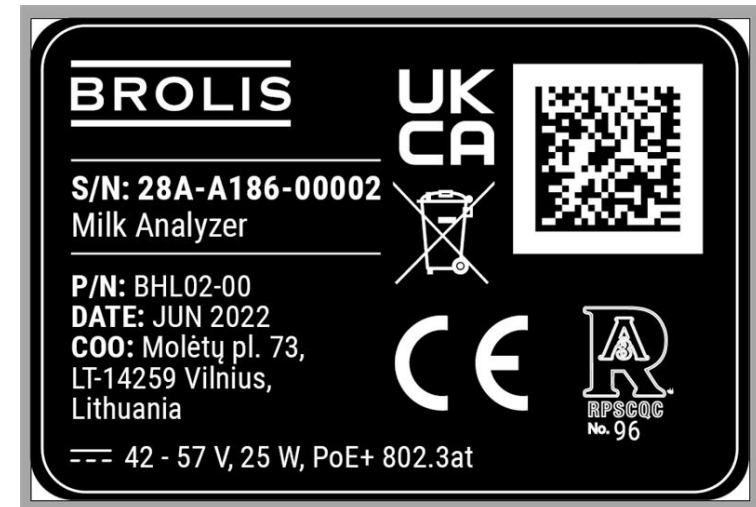
Brolis Sensor Technology, UAB

Molėtų pl. 73, Vilnius VL 14259, Lithuania

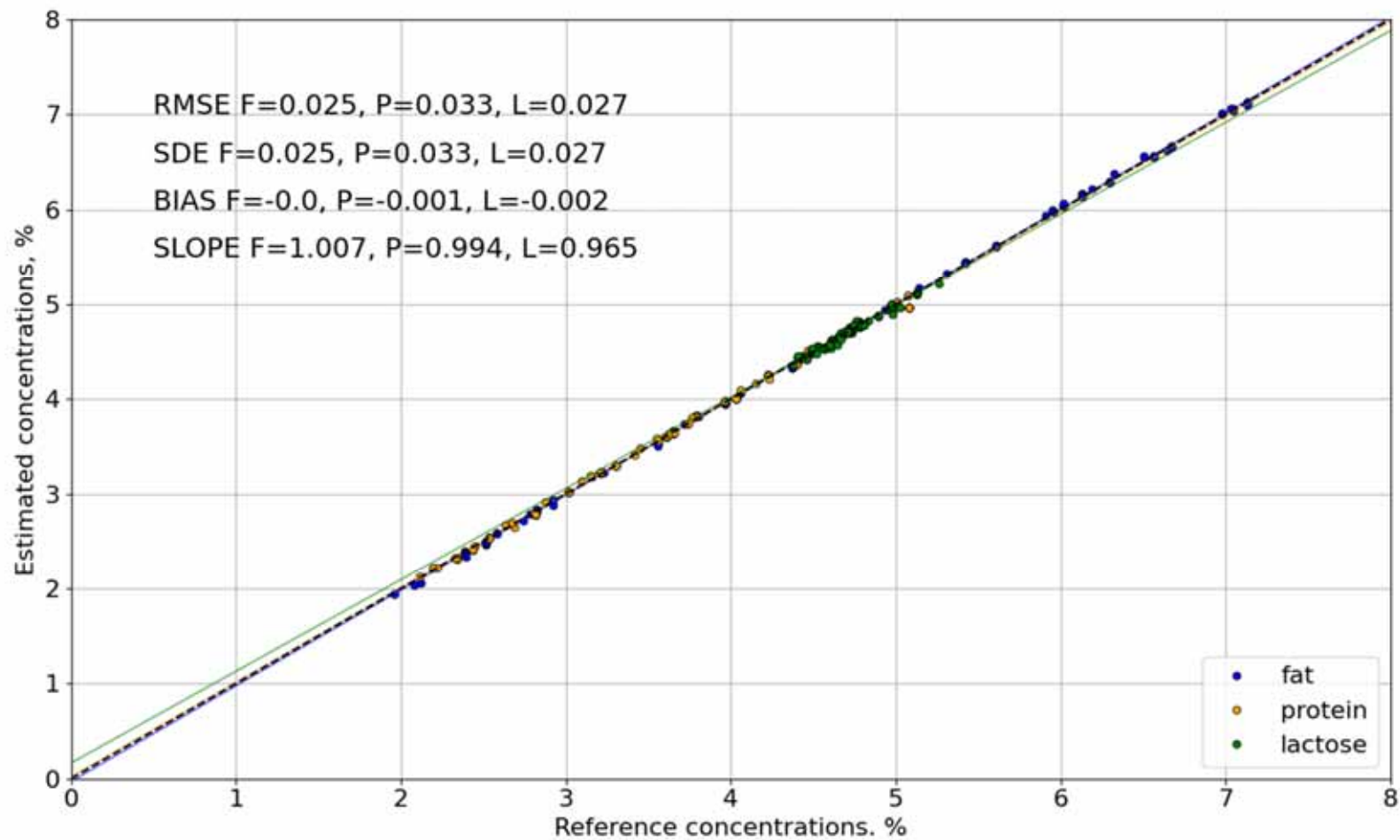
Has successfully met the requirements of the Replacement Parts and System Component
Qualification Certificate program for:

Type of Part(s): 3-A RPSCQC for (102-00) Unitized Equipment for Automated Milking Installations

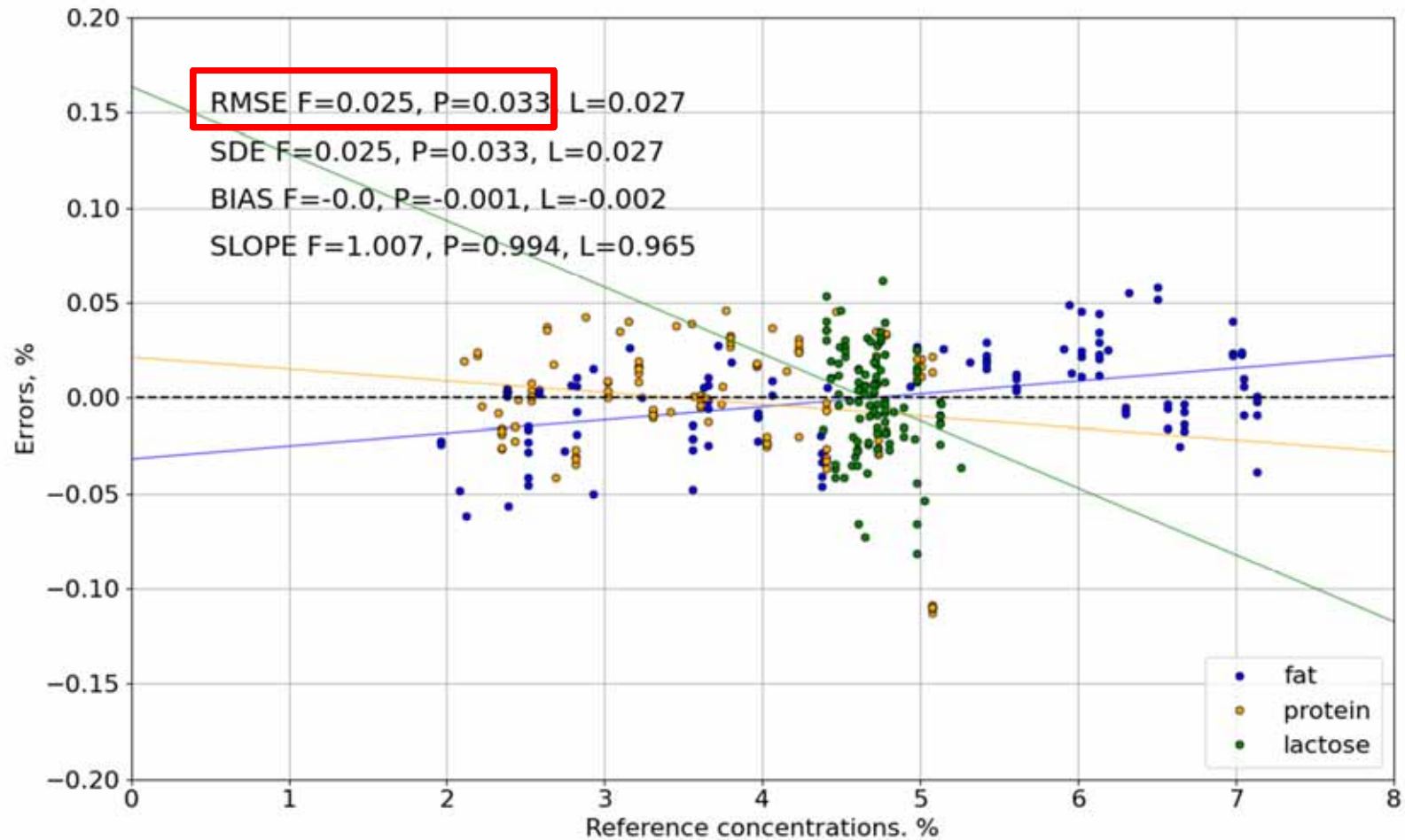
Model Designations: CIP Models: Milk Sensor Models BHL02-00/01



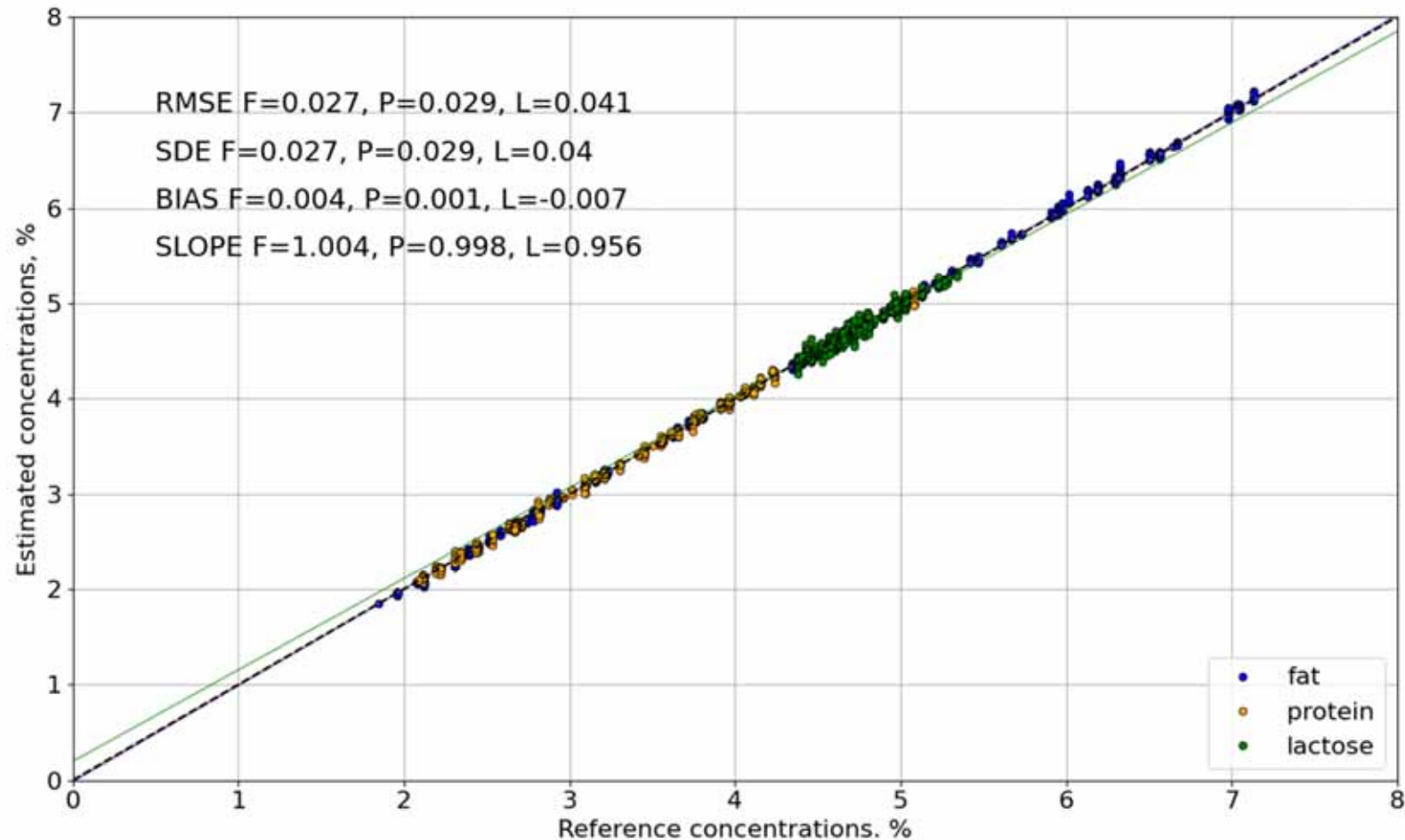
> Single analyzer (serial no MLK002529) performance over 111 calibrated milk samples.



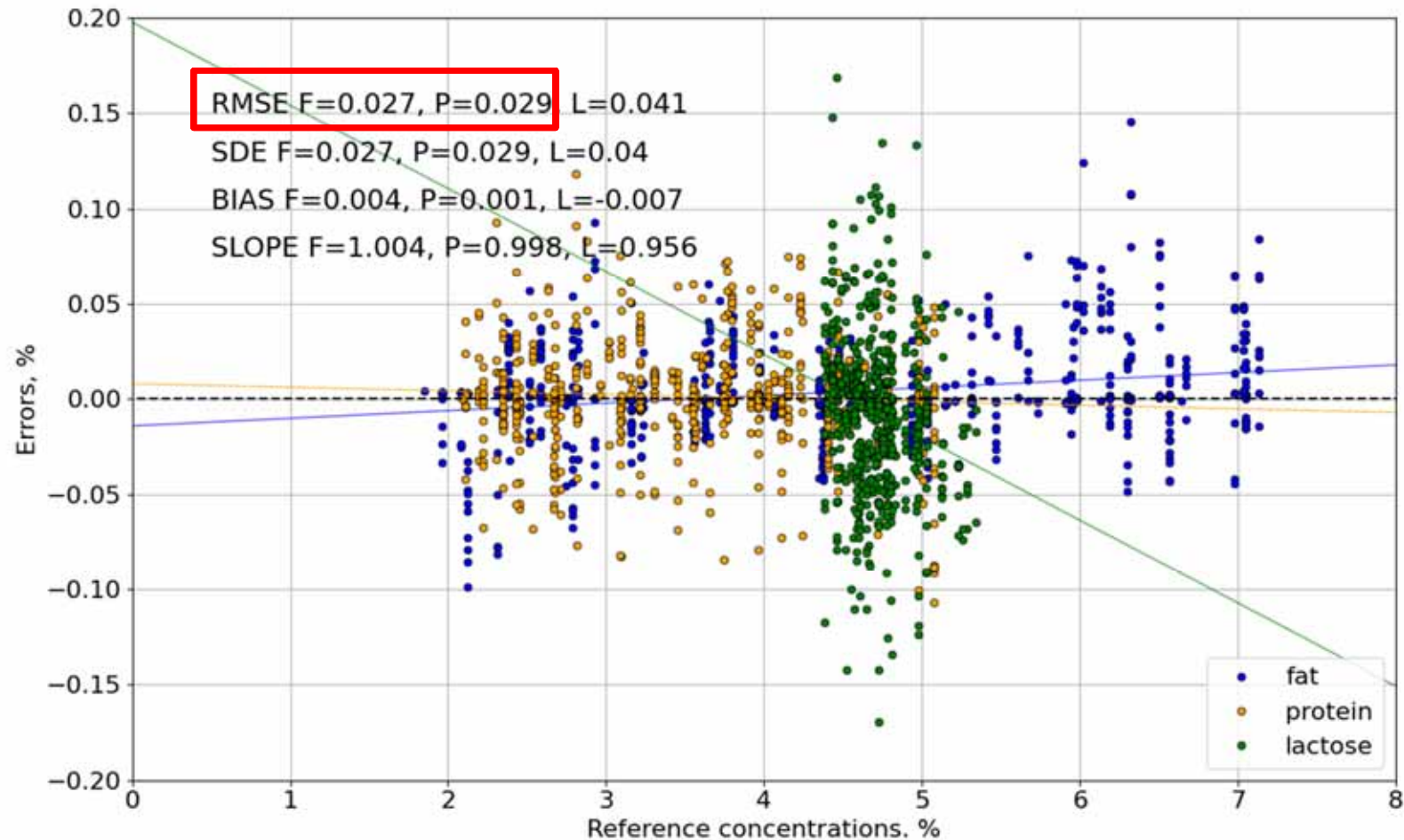
> Single analyzer (serial no MLK002529) performance over 111 calibrated milk samples.



- Batch of 263 analyzers, tested against one to several calibrated milk samples, 680 measurements in total.



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> Applications developed with:

- Spin-off from Brolis sensor technology
- Focus on dairy farm data and applications
- Joint venture with Boumatic
- Boumatic – well known dairy industry company
- Brolis BHL02 – MilkGenius in Boumatic ecosystem
- Open data approach



HERDLINE

> Discharge line



> Discharge line





Date range

2026-05-22 ~ 2026-05-31

Period

Daily aggregate

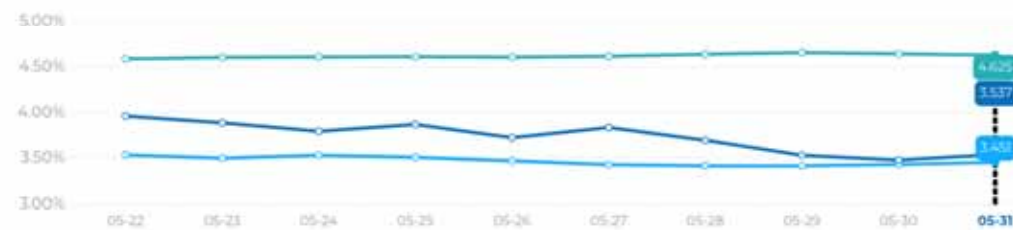


- Daily aggregate
- Weekly aggregate
- Monthly aggregate

ew - We're actively improving this experience, so information may be updated as we refine details and address issues.

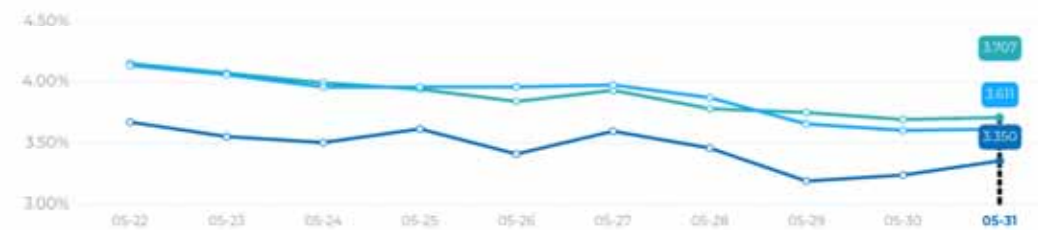
MILK COMPOSITION

3.5% 3.5% 4.6% as of 05-31
Fat Protein Lactose



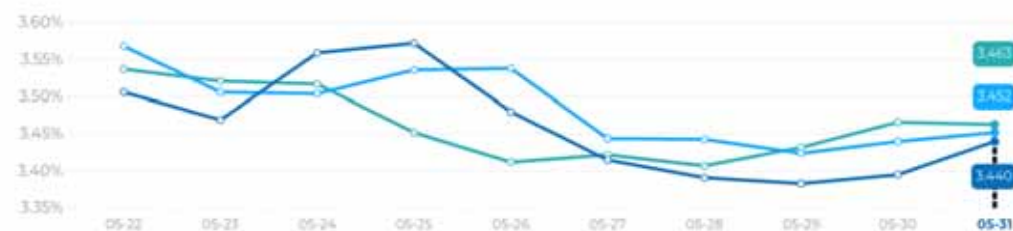
FAT BY SESSION

3.4% 3.6% 3.7% as of 05-31
Session 1 Session 2 Session 3



PROTEIN BY SESSION

3.4% 3.5% 3.5% as of 05-31
Session 1 Session 2 Session 3



LACTOSE BY SESSION

4.6% 4.6% 4.6% as of 05-31
Session 1 Session 2 Session 3



> Bulk tank data comparison





Parlors / Rotaries

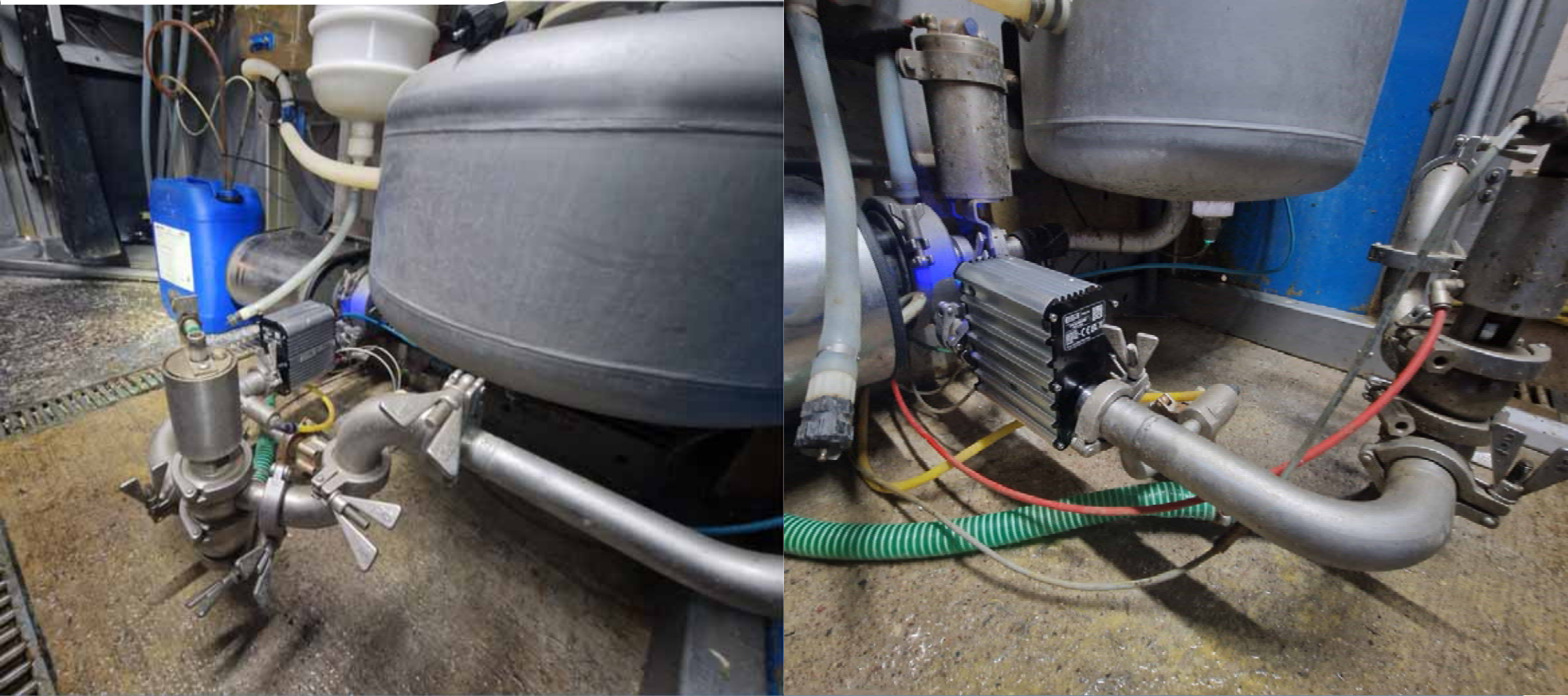


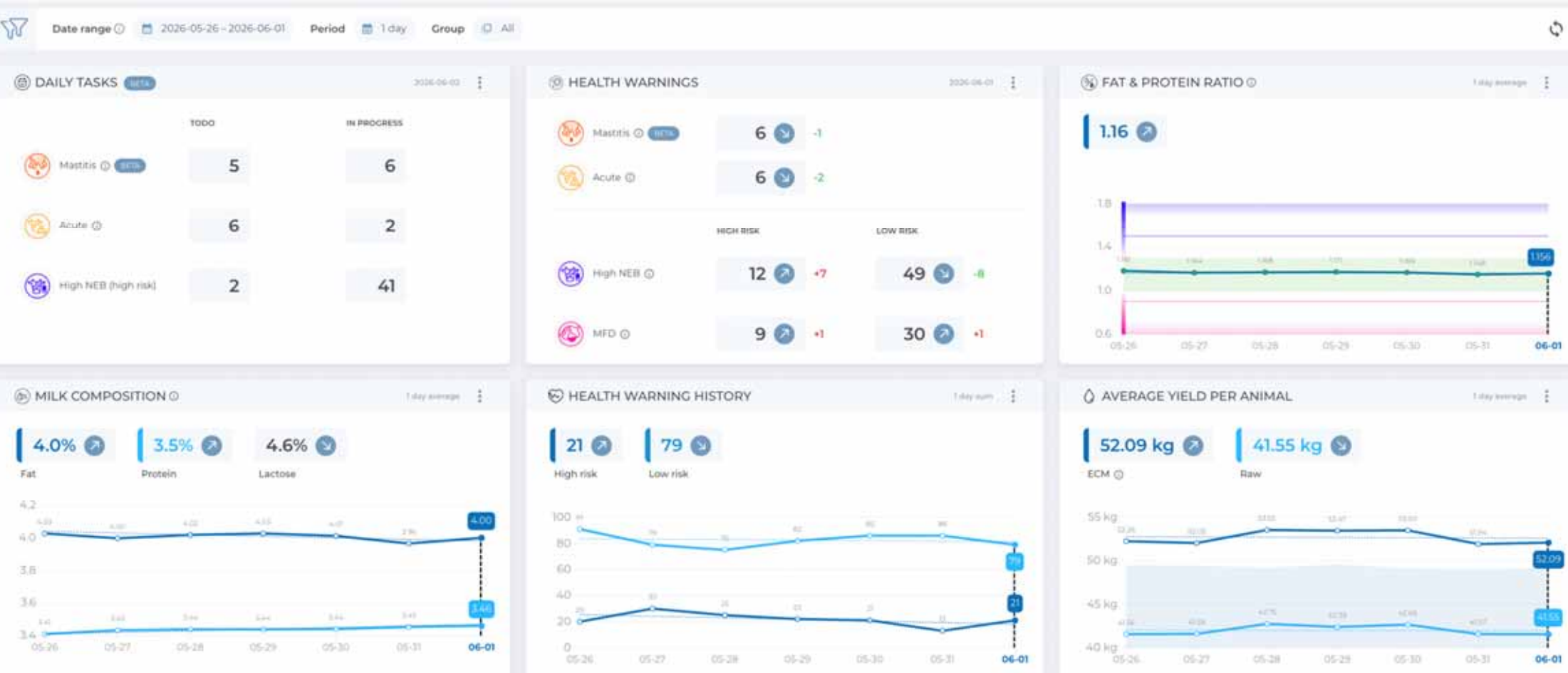


Date range 2026-05-26 - 2026-06-01 Time interval Daily aggregate



> Robots





> Individual automated supplement feeding



> Application architecture summary

Sensors: Stalls	Installation type	Daily herd averages	Daily pen averages	Individual- animal values	Automated NEB prevention	O.R. equiv.
1:1	Robotic milking systems	Yes	Yes	Yes	Yes	Yes
1:1	Parlor / rotary, full coverage	Yes	Yes	Yes	No	Yes
1:N	Parlor / rotary, partial coverage	Yes	Yes	Conditional	No	Yes
1:All	Discharge line	Yes	Conditional	No	No	N/A

> Final notes

- Real-life accuracy. No human input = no human mistakes.
- Daily (or random but frequent) measurements vs. monthly official recordings. Daily values, 7-day averages, monthly reports..
- Works for goat milk as well!
- Q&A

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