

DAIRY PROCESSOR'S PERSPECTIVE ON SENSOR-BASED WELFARE ASSESSMENT

Paolo Bulgarelli, DVM | Milk Quality & CSR Manager



**ICAR IDF WORKSHOP
USE OF SENSOR DATA TO MONITOR AND MANAGE
HEALTH AND WELFARE OF DAIRY CATTLE**

Verona– 2 June 2026

Dairy Needs Its USB-C Moment



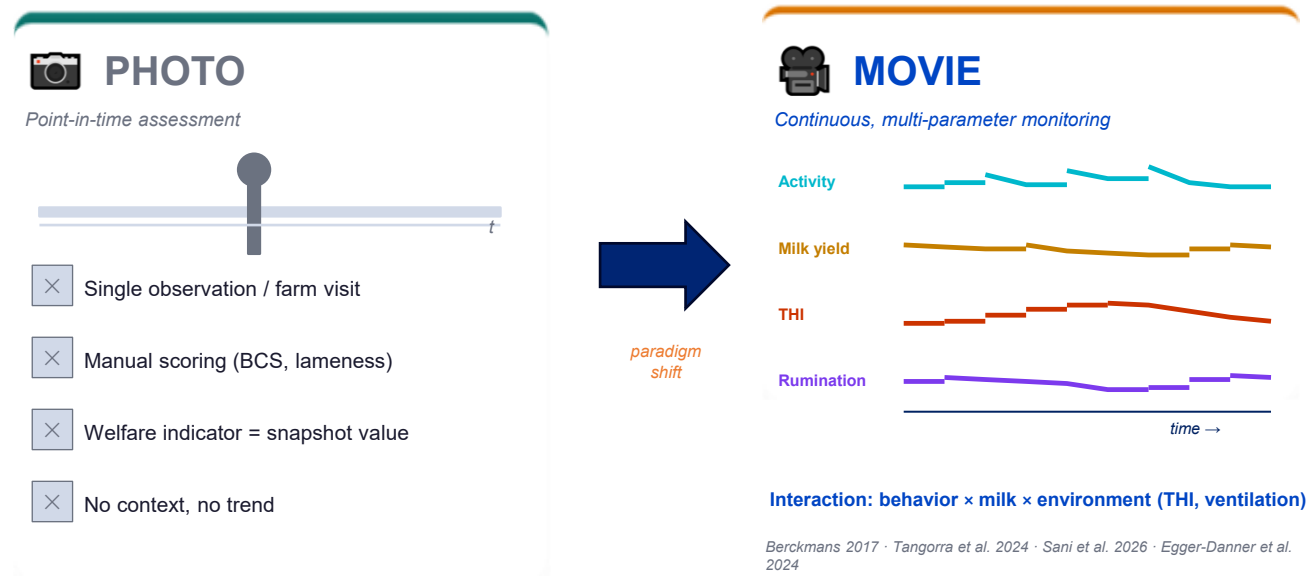
We Have Data. But It Doesn't Travel.



Farm Data $\neq$ Value Chain Value



From Static Assessment to Dynamic, Integrated Monitoring.



Welfare assessment is evolving from static snapshots to **continuous, integrated, and system-based monitoring**

From Data Collection to Value Creation

Individual signals

Rumination, lying time, activity index, lameness score, milk quality parameters.
continuous real-time monitoring per animal. (Tangorra et al., Animals 2024).



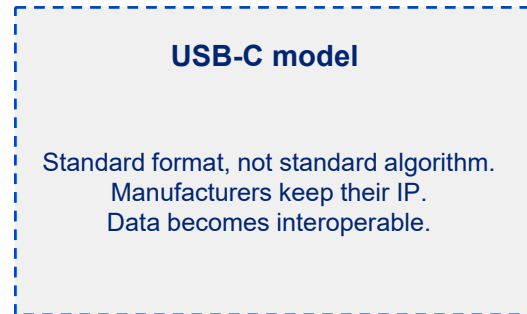
Herd KPIs

Aggregated, validated indicators: welfare score per herd, health alert rate, benchmarked vs. national reference population (ICAR/IDF Sensor Initiative framework — Egger-Danner et al. 2024).



Value chain indicators

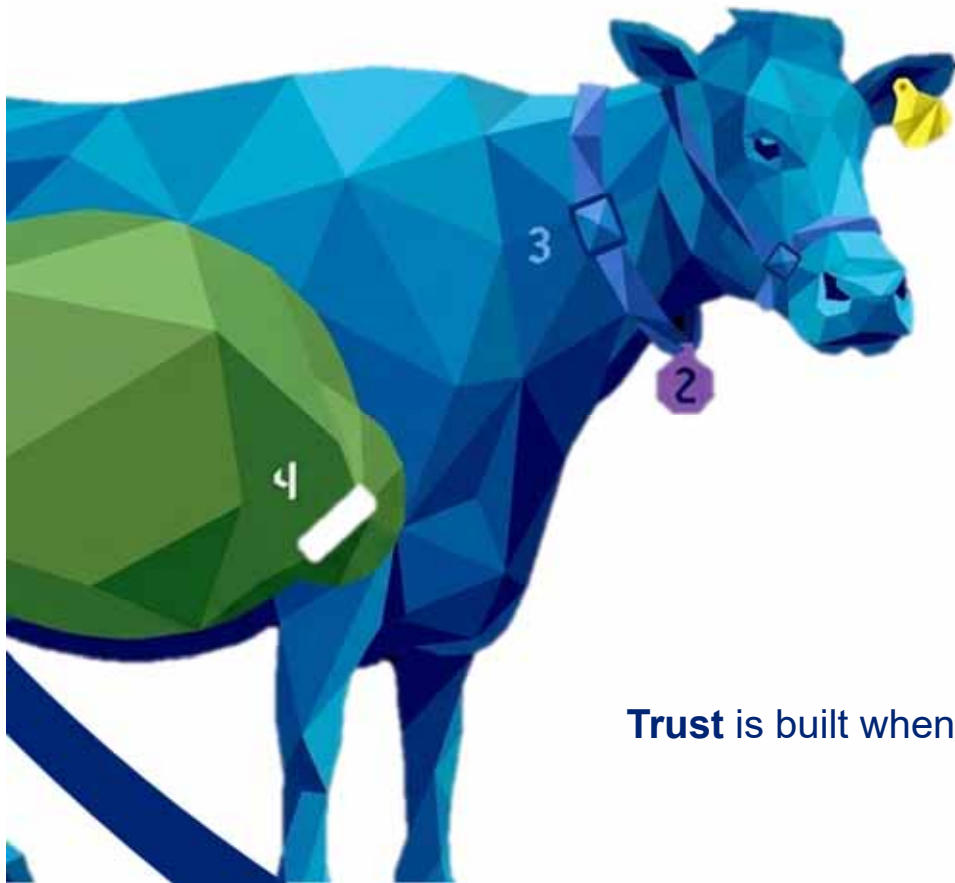
Standardized, **ICAR-IDF validated metrics shared along the supply chain:** certifiable welfare claims from farm to shelf. From alert → indicator → label (Brito et al., JDS 2025).



Processors and retailers must move from passive data users to **co-designers** of what data is needed, how it is collected, governed, and how value is returned to farmers???



Data Must Create Value — Not Extract It



True Reciprocity: Data is shared, benchmarks and prevention returns.



Welfare Washing Mitigation:

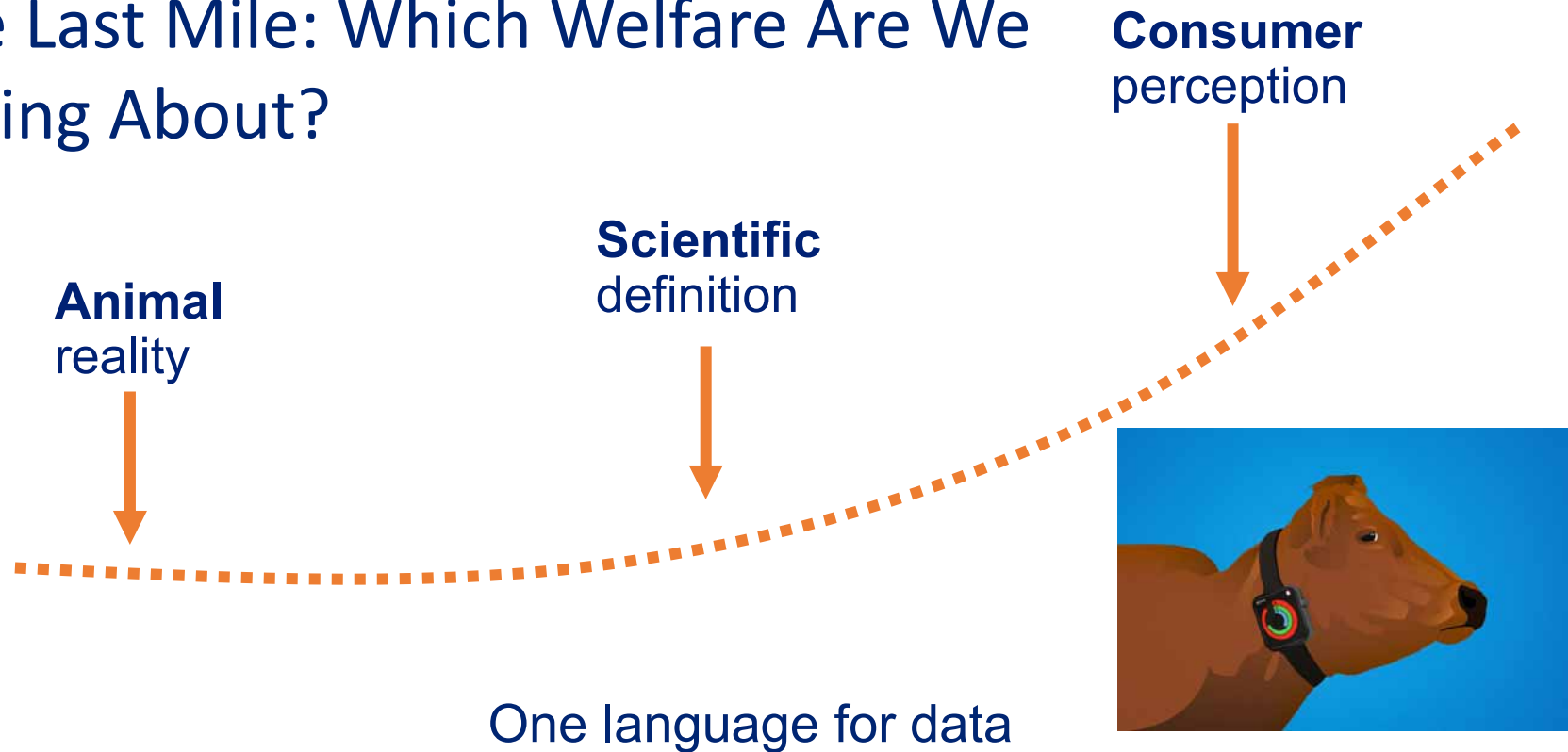
Robust verification protects both retail and farmers from unverified sustainability claims.

Mata, F., Marques, M.R. (2026)

Trust is built when claims meet **measurable outcomes.**



One Last Mile: Which Welfare Are We Talking About?



does not automatically mean one **understanding of welfare**

THANK YOU

