Study of the need for predictive milk coagulation technology: Validation of Potential Clients

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Optic**Mizing**

INTRODUCTION AND OBJECTIVE

- This TFG is associated with a PhD thesis of OPTICmizing, a line of research from CIRTTA that is developing MilkOpt.

- The **objective** is to elevate the Customer Readiness Level of the KTH Innovation Readiness Level from level 3 to level 4 through the validation of the need for the predictive milk coagulation technology (Fig.1).
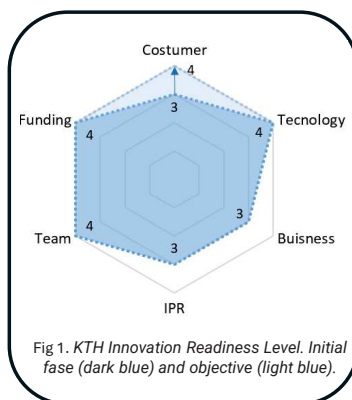
Fig 1. *KTH Innovation Readiness Level. Initial fase (dark blue) and objective (light blue).*

BACKGROUND

- Situation of the dairy sector
- Hypothesis
- Segments

MilkOpt

A technology that determines the coagulation capacity of milk, before initiating the transformation process, to enhance the performance of the dairy industry and help indirectly with the detection of animals with subclinical mastitis.

METHODOLOGY

- Creation of the survey
- Review of the results
- First dispatch
- Second dispatch
- Evaluation of the results
- Creation of the database
- Database modifications

RESULTS

Profile

- Cow farmers with a medium automatization level.
- Cheese producers were mostly transforming milk from with low automated and traditional processes.

Milk coagulation capacity

- Limited supply of milk specifically designated for cheese production due to the lack of analysis of the functional properties of milk.

- 89% of cheese producers believe that knowing the coagulation capacity of milk before initiating the process could reduce the consequences they suffer (Fig. 3).

Subclinical mastitis

- 86% of farmers are interested in a sensor that can help with detecting subclinical mastitis.

Payment methodology

- The current payment methodology in the dairy sector does not meet the dairy sector's needs.

- 58% cheese producers are willing to pay for milk with know coagulation capacity.

Implementation

- Both groups are willing to implement a sensor that determines the coagulation capacity, with its implementation being more feasible on cow farms.
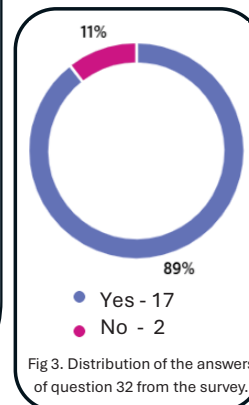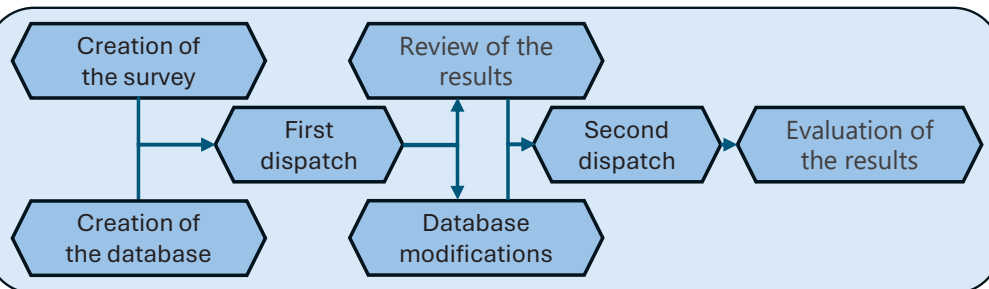
Fig 2. Survey *QR code.*

11%

89%

- Yes - 17
- No - 2

Fig 3. Distribution of the answers of question 32 from the survey.

CONCLUSION

- There is a need for a technology that can predict the coagulation capacity of milk.

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