



6/8

CURRENT TRL  
& TARGET TRL

> 10%

INSEMINATION RATE  
INCREASE

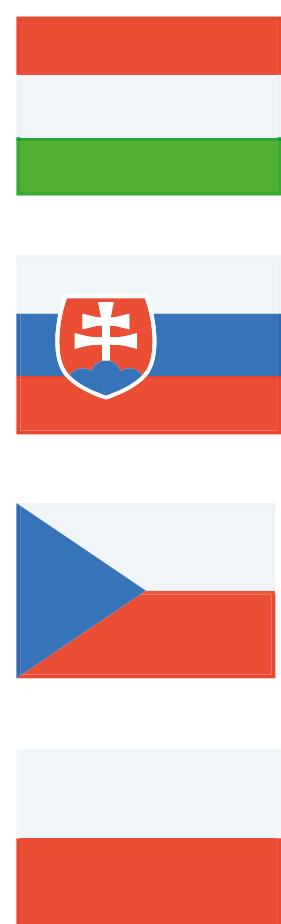
- 15%

VISUAL MONITORING  
TIME

- 10%

MEDICATION/  
TREATMENT COSTS

## COUNTRIES

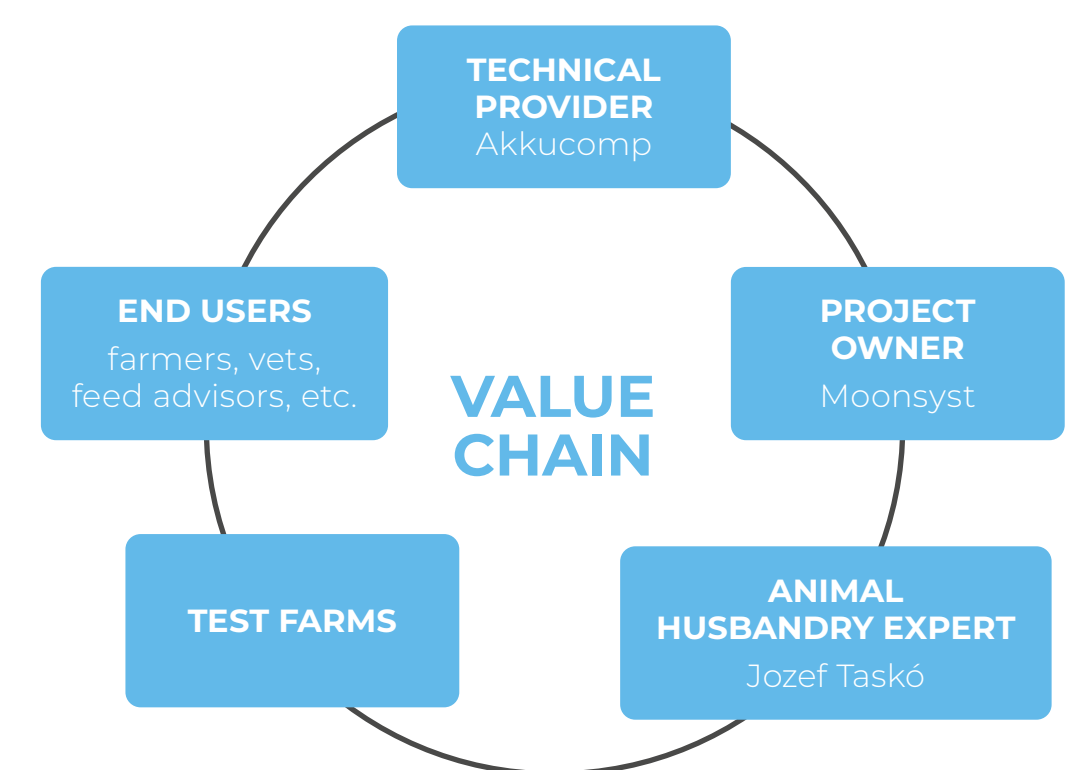


## PARTNERS

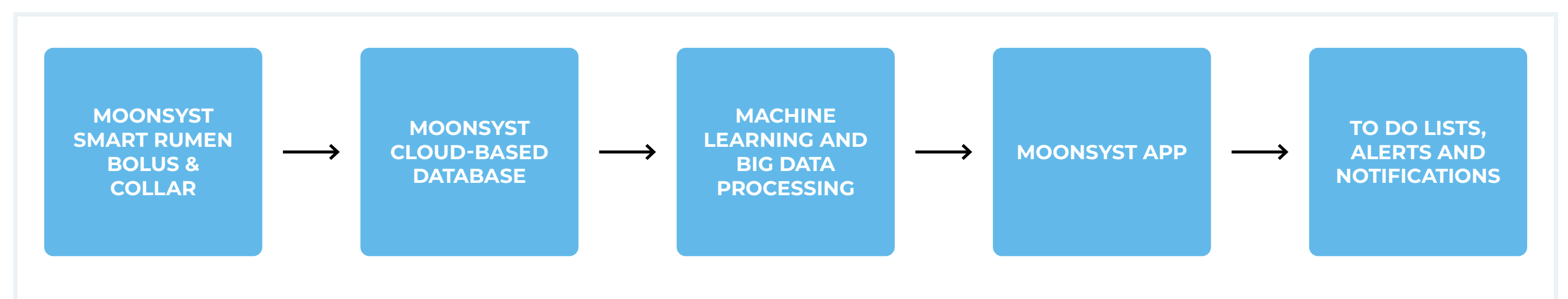


# 2.7 MULTI-SENSOR COW MONITORING

This Use Case aims to further develop and promulgate a precise and reliable cattle monitoring ecosystem utilising the needs of multi-country dairy and beef farmers, stemming from previous user feedback analysis. By harmonising their different breeding methods and setting novel as well as customised software features accordingly, a mobile device solution for daily operations on all farm levels is developed. The system is made up of a small rumen bolus and collar, monitoring various physiological data, and a cloud-based server application to provide accurate information for daily operations. It helps farmers to guard, track and monitor all assets with the help of reliable, affordable, low-power, wide-range network technologies and smart sensors.



## HOW IT WORKS



The development of the Moonsyst smart rumen bolus for cattle enables the following key functions and features:

- Accurate heat detection and calving alert.
- Indoor and outdoor positioning through the latest technologies (NB-IoT or LoRa Geolocation).
- Monitoring of drinking behaviour.
- Harsh environment operation (intraruminal).
- Easy deployment – no additional system devices needed (plug'n'play).
- Theft and roam protection of animals with localisation service.
- Cloud-based platform.
- Easy, user-friendly data visualization and interpretation.
- Machine learning algorithms and Big Data solutions.
- Cross platform/system data utilisation.

## THE IMPACT

### OUR OBJECTIVES

- Improve livestock production processes, yield and product quality.
- Increase reproduction rates.
- Decrease the occurrence of animal health problems (heat, stress, rumen acidosis, milk fever, etc.).
- Improve animal welfare through reduced number of veterinary interventions and antibiotics or hormone treatments.

### ON ECONOMY

- Insemination rate increase >10%.
- Working time decrease >10%.
- Medication/treatment costs -10%.
- Visual monitoring time -15%.

### OTHER IMPACT

- Enable better human resource management.
- Improve farmers' work-life balance.
- Optimise breeding selections and methods.
- Improved understanding of cattle behavior.