



7/9

CURRENT TRL
& TARGET TRL

4%

PRODUCTIVITY
INCREASE

1500

COWS TRIALLED

- 10%

HEALTH-RELATED
LOSSES

COUNTRIES

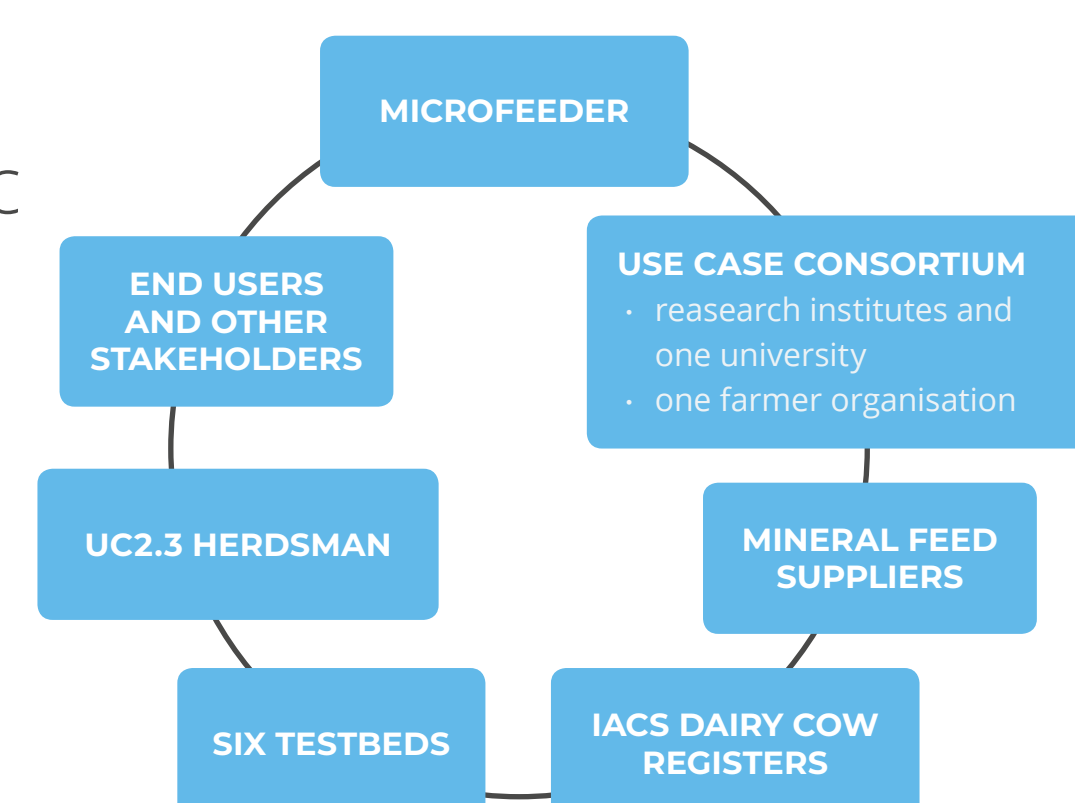


PARTNERS



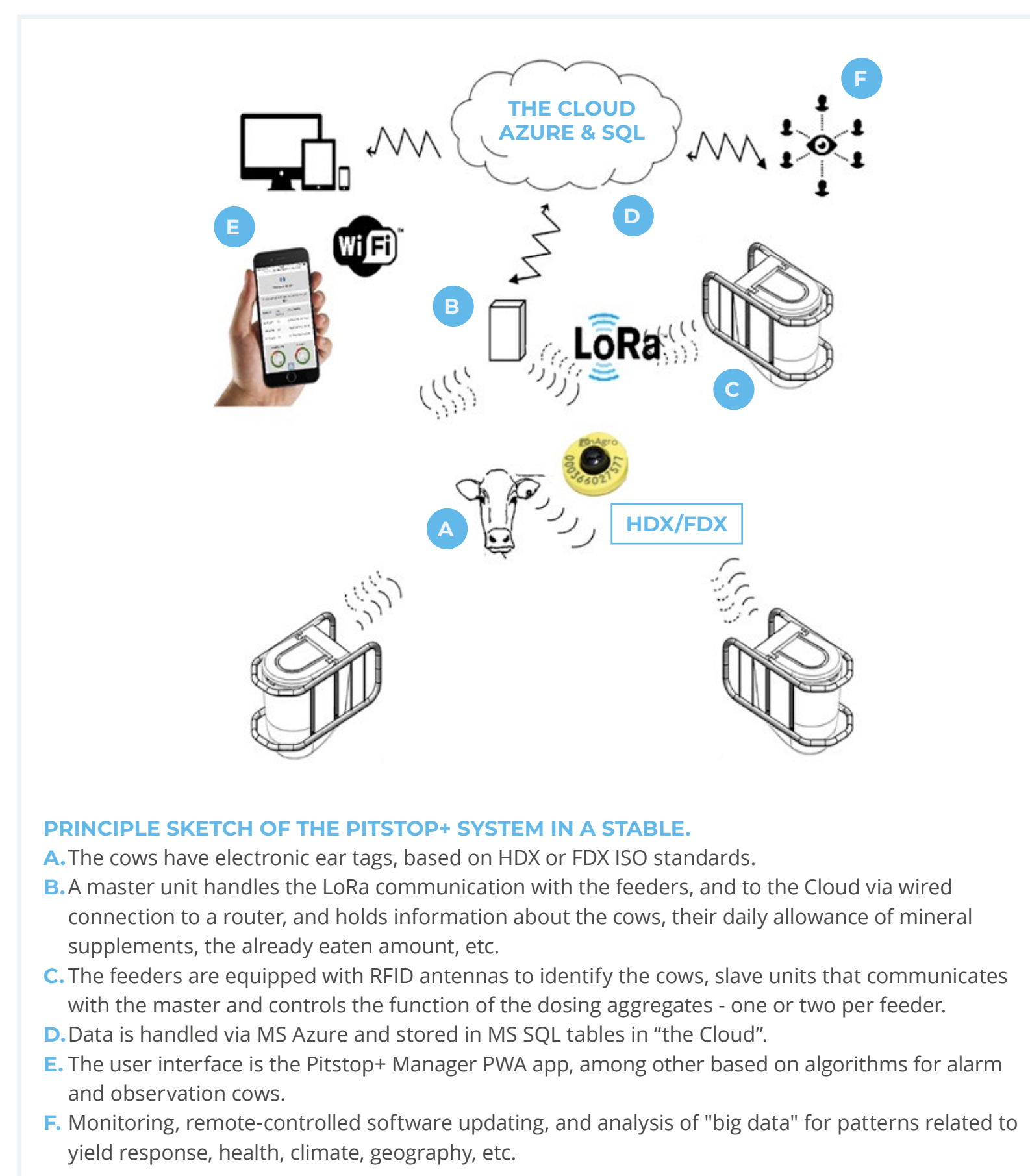
2.6 PRECISION MINERAL SUPPLEMENTATION

Dairy farming faces increasing losses related to diseases and derived mortalities of dairy cows due to the expanding use of Total Mixed Rotations (TMR) and other standardised feeding, combined with increasing productivity. This use case challenges the situation by utilising IoT for precision supplementation, which is also a cost-efficient and practical way of using advanced feed additives. Relying on cloud-based services and data integration combined with the identification of cows via electronic ear tags allows catering to each animal's individual needs. Minerals and vitamins are important for cows' immune status, and feed additives can furthermore have wide impacts on the environment and climate.



HOW IT WORKS

Pitstop+ is a mineral feeder for dairy cows, to be mounted in the stable or in an outside motion area. The feeder is equipped with electronic components for the identification of the cows via their electronic ear tags which can be delivered with the feeders in case such ear tags are not already used in the herd. The herd manager decides via the user interface which cows shall have dosed mineral supplements in the feeders. Moreover, the user interface enables the supervision of individual transition cow's eating behaviour and is thus a tool for improved herd management. It is expected to prove a connection between those parameters and the cow's performance as well as health.



THE IMPACT

OUR OBJECTIVES

The use case demonstrates precision mineral supplementation over twelve months in six dairy farms in Latvia, Germany and Lithuania, involving a total of 1,500 cows. Furthermore, it aims to showcase trial interoperability, replicability and the reusability of IoF2020 results or innovations, IoT layers and data flows via the cloud.

ON ECONOMY

Precision Mineral Supplementation is an easy, safe and efficient method:

- Costs for the feeder €4;
- Mineral costs per cow per year €27;
- Increase in milk per cow per day 1.2 kg;
- Reduction of health-related losses (-10%);
- Total savings per cow per year €146.

OTHER IMPACT

The Use Case will directly avoid losses to the nature and environment of 3,977 kg N and 230 kg P as well as 959 kg N in ammonia emissions. The corresponding amount of manure nutrients for the expected market reach of 3,375 million dairy cows is 327 million tonnes of N, 18.9 million tonnes of P and 79 million tonnes of N as ammonia emission. Also, due to higher feed efficiency, less land for growing feed for dairy cows is needed.