



## Ear sensor for temperature monitoring of small farm animals

### Purpose and aim

The project investigates whether it is possible to monitor the temperature of small farm animals by placing a sensor on the skin in the ear. The temperature monitoring process can help detect diseases in the flock early, allowing for timely intervention that can reduce the number of cases of infection and death among animals. Overall, the project aims to contribute to the development of innovative and effective solutions for monitoring the health of small farm animals and improving their welfare.

### Results, important findings

The project has successfully developed a prototype that uses RTD sensors and NFC technology to monitor the temperature as proof of concept. The RTD sensor is made using copper on silicon dioxide and is bonded beneath a small circuit board that processes the information received and transmits it using NFC technology.



Hanne Steen  
105502@usn.no  
MSc – Micro and Nano  
System Technology

Erik Andrew Johannessen  
Erik.a.johannessen@usn.no  
Geir Morten Wold  
Geir.morten.wold@7sense.no  
7sense technologies AS