



Radio Collar



Base Station

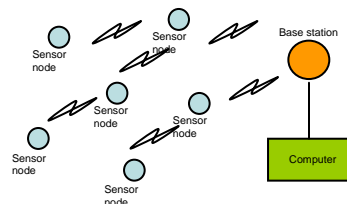


Farm Trial

### > Animal Health Monitoring with RF Technologies Main Objectives

- > To develop a robust and agile radio system to transfer sensor data from cow collar to the backend system.
- > To develop an intelligent Medium Access Control (MAC) that enables data transmission as soon as a cow is within range of a base station.
- > To design AI algorithms embedded into cow collar's micro-processor to minimise the data transfer requirements and hence minimise power consumption.
- > To reach a balance between power consumption, effectiveness and complexity such that that all AI codes can be located within a low power micro-processor to obtain a three year battery lifetime.

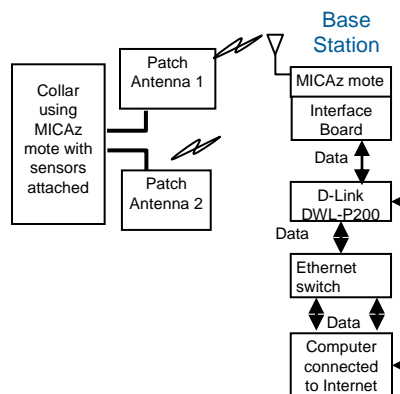
### > Wireless Sensor Network Architecture



### Applications

- > Animals monitoring, include cow, sheep, pig
- > Wild animals tracking
- > Animals behaviour/habitat study
- > WSN can be easily extended to the following applications, such as military, environment, smart home, industrial, office, and commercial applications.

### > Animal Health Monitoring Architecture



### > Experimental Results

- > Farm trials currently in progress
- > Initial design, includes power savings scheme, queuing MAC, antenna diversity.

