



Sealing and Identification techniques Laboratory (SiLab):

Secure and safe mobility network to increase disable mobility

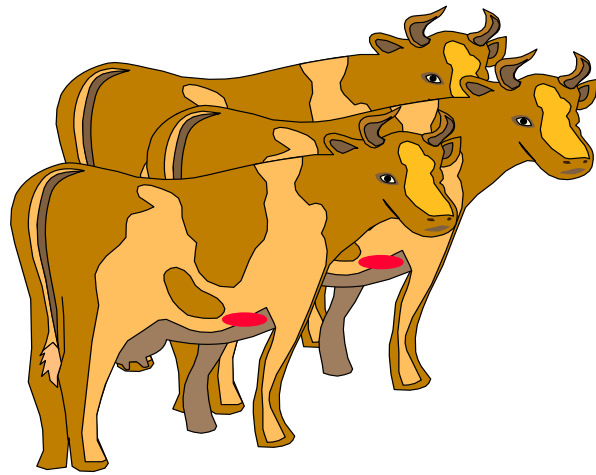
ISPRA March 14, 2007

Marco Sironi

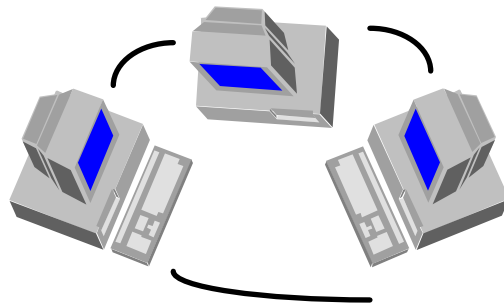
Institute for the Protection and security of the Citizen
Traceability and Vulnerability Assessment - SiLab
Via E.Fermi 1, 21020 ISPRA (VA), Italy
Marco.sironi@jrc.it - <http://silab.jrc.it/>



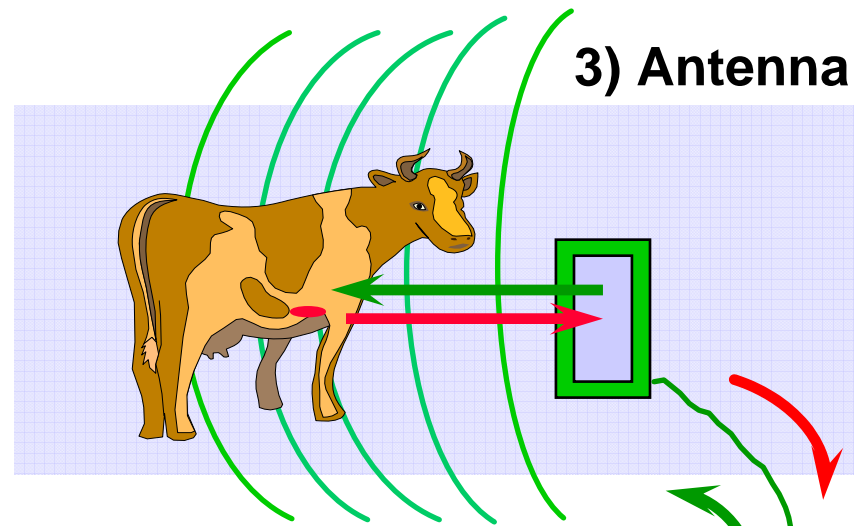
Livestock electronic identification



1) Passive Transponder



5) Database

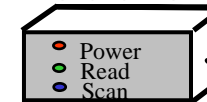


3) Antenna

134.2 kHz



2) RF Module



4) Computer



The Transponder

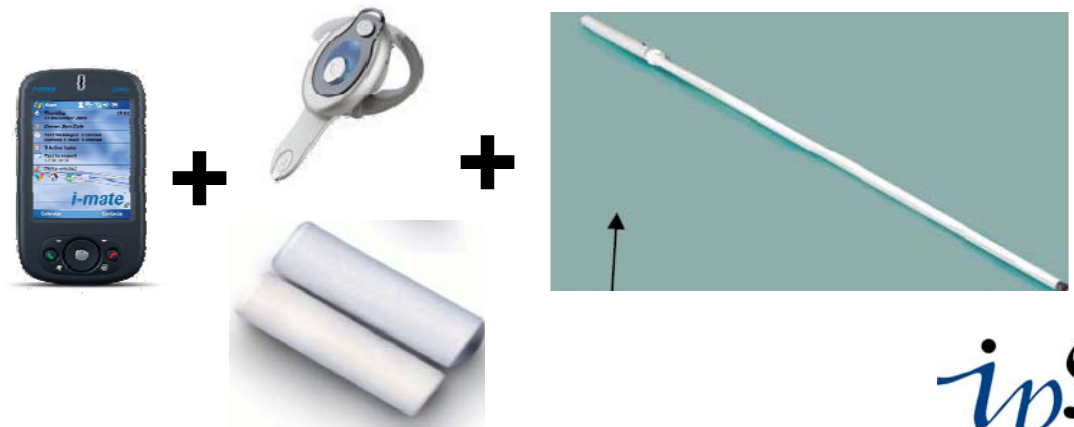
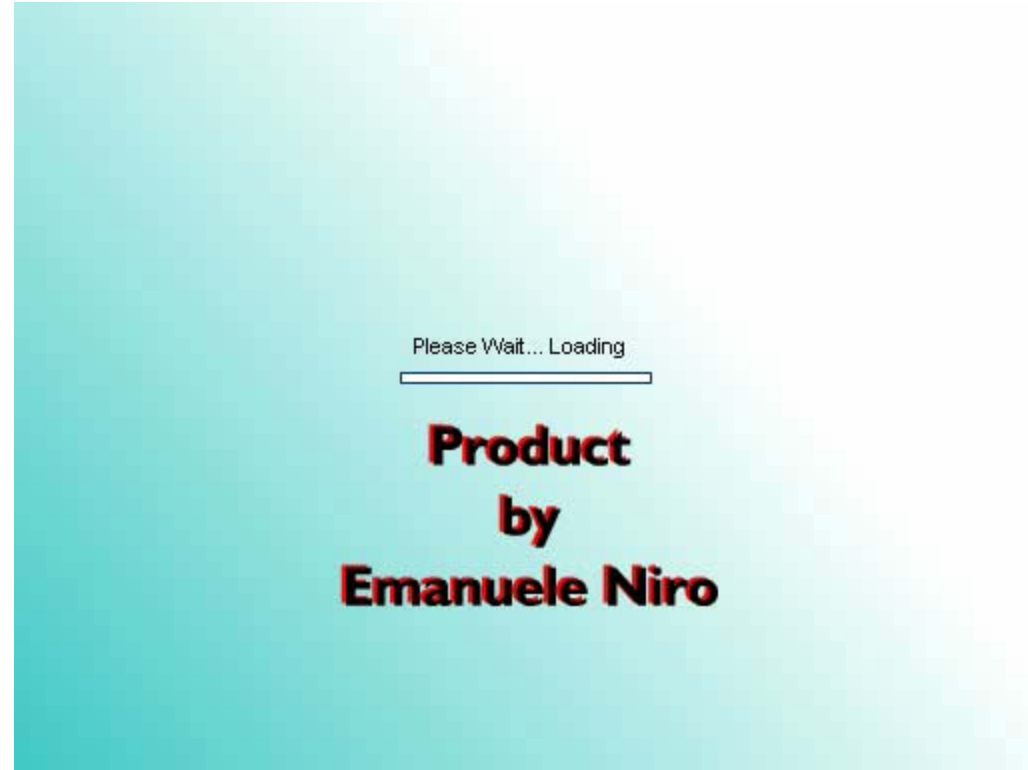
- Transponders required to build the path could be recycled from the "Animal Tagging"
- Transponders used for this application are standard, passive, with a long lifetime, hermetically encapsulated and can be easily reused, frequency 134.2Khz.





SESAMONET (*Secure & Safe Mobility Network*)

- Passive transponders (RFID possibly recycled from Animal Tagging) used to create a path on the pavement.
- The path does not need any electric power supply and can be installed in areas such as parks, pedestrian areas, town centres, buildings, etc...
- The walking stick has an embedded antenna (with a bluetooth transmitter) which detects/reads the RFID transponders.
- Each transponder sends a signal via the antenna to a Smart Phone equipped with a database with information on the location.
- Through a bluetooth headset the disabled receives information on the path (e.g. how to reach his/her destination, whether there are obstacles, if some services are nearby...).
- It is possible to connect the smart phone to an external database with real-time information on the path (works in progress, changes to transport schedule, etc...).





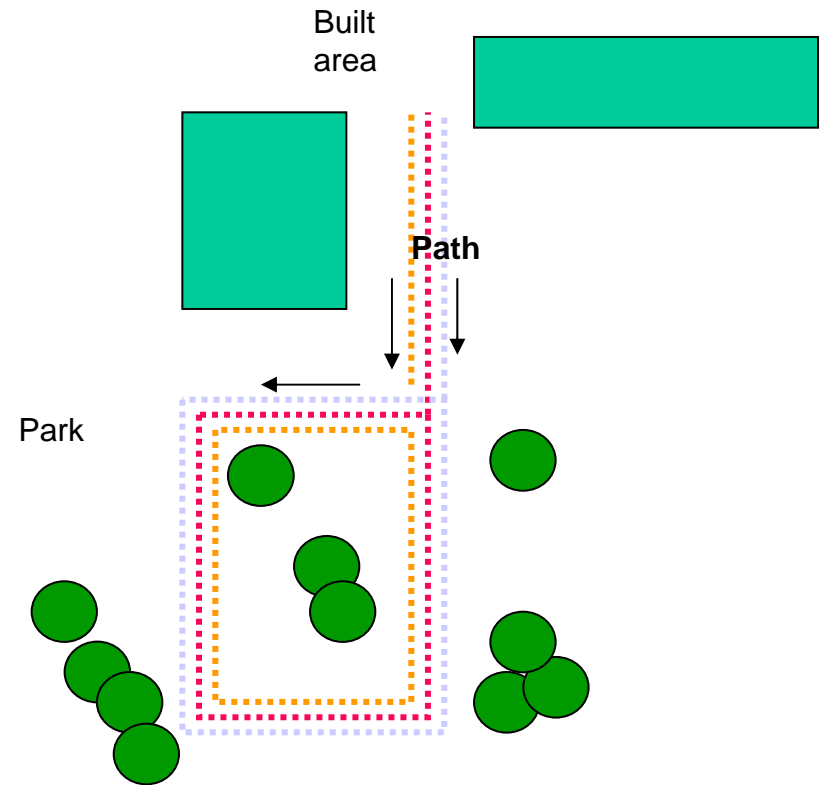
A DEMO SYSTEM IS OPERATIVE

Its main components are:

- a walking stick with embedded antenna
- a bluetooth receiver headset
- a smart phone

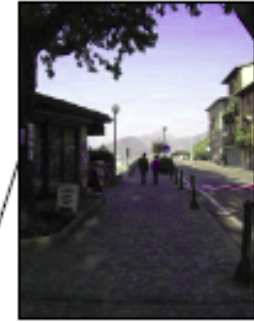
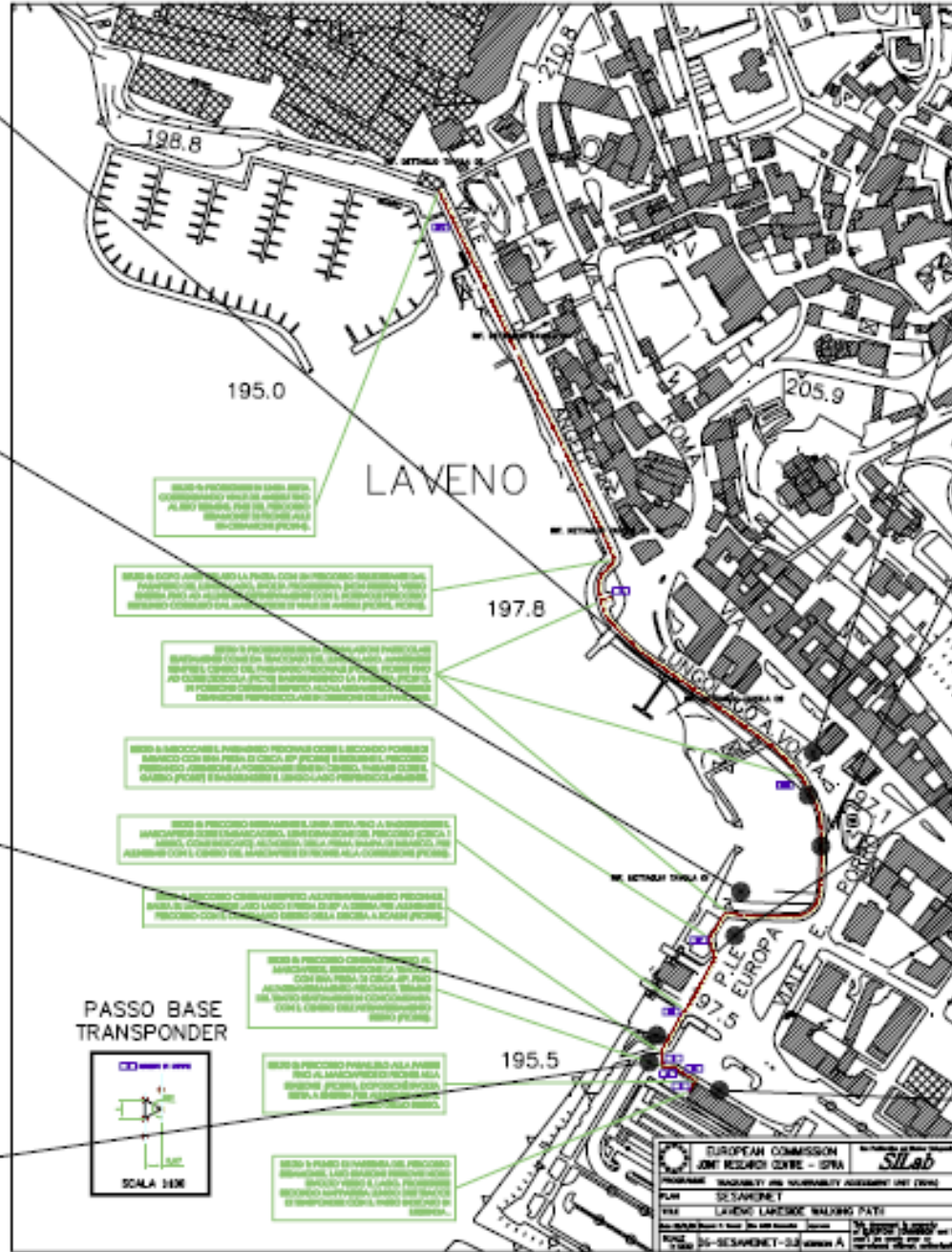


Example of path at JRC





Joint Research Centre





Technologies to assist disables, tasks in 2007:

- Test trial to be set in LAVENO
- Trial to be set in Parco Prealpi Giulie supported by Regione Friuli in cooperation with DEIMOS Engineering
- Cooperation with Unione Italiana Ciechi
- Cooperation agreement with the University La SAPIENZA
- Within the collaboration agreement between JRC and Regione Lombardia (**ACCORDO QUADRO DI COLLABORAZIONE TRA IL C.C.R. E LA REGIONE LOMBARDIA JRC-BXL-180446**) the realization of new trials is under discussion.