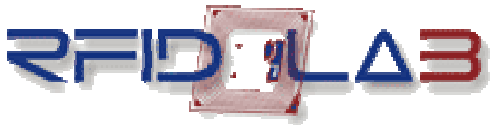

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Members of RFID Lab

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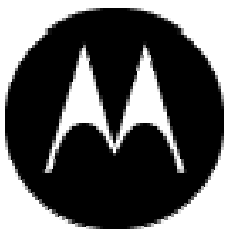
- Department of **Ingegneria Elettronica**, Faculty of Engineering, University of Rome “La Sapienza”
- Department of **Ingegneria Informatica**, Faculty of Engineering, University of Rome “La Sapienza”
- Department of **Logistica e Gestione Merci**, Faculty of Commerce, University of Rome “La Sapienza”
- **Centre for Transports and Logistics** (CTL), Faculty of Engineering, University of Rome “La Sapienza”
- Department of **Informatica**, Faculty of Science, University of Rome “La Sapienza”

- Institute for the Protection and Security of the Citizen, JRC ***Joint Research Centre*** UE
- Department of **Informatica Sistemi e Produzione** (DISP), Faculty of Engineering, Università di Roma “Tor Vergata”
- Department of **Ingegneria dell’Impresa** (DII), Faculty of Engineering, Università di Roma “Tor Vergata”
- Department of **Ingegneria Biofisica ed Elettronica** (DIBE), Faculty of Engineering, University of Genoa
- Department of **Ingegneria Industriale**, Faculty of Engineering, University of Parma

RESEARCH SPONSORS



RFID LAB Projects

GLove for **ID**entification and **DE**scription of **O**bjects

SEcure and **SA**fe **MO**bility **NET**work

GLove for **ID**entification and **DE**scription of **O**bjects

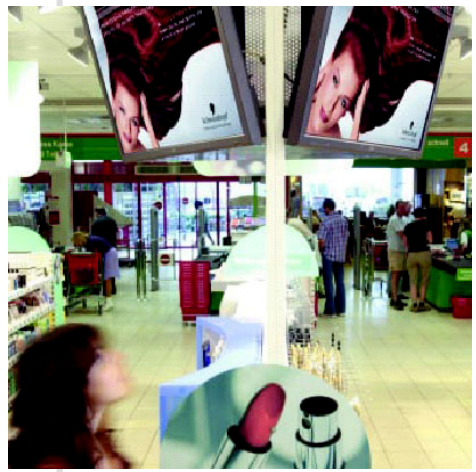
GLIDEO

- **A new system based on RFID technology**

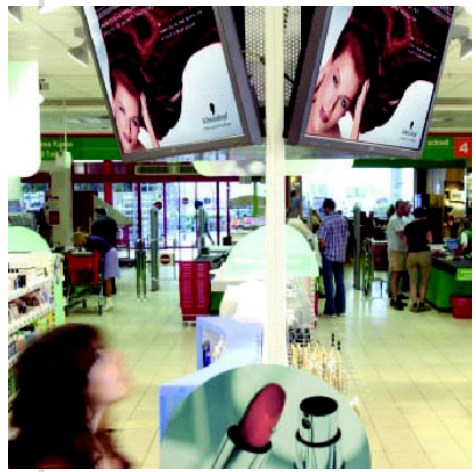
- **Designed to solve the situation of impossibility of information that afflicts blind people**

The main idea of **GLIDEO** is about the creation of a portable electronic system that could help blind people in becoming autonomous in everyday life.

One of the barriers to autonomy is the impossibility for the blind to acquire information on objects, labels, spaces, etc... and this happens because all the information are given in a **visual way**.

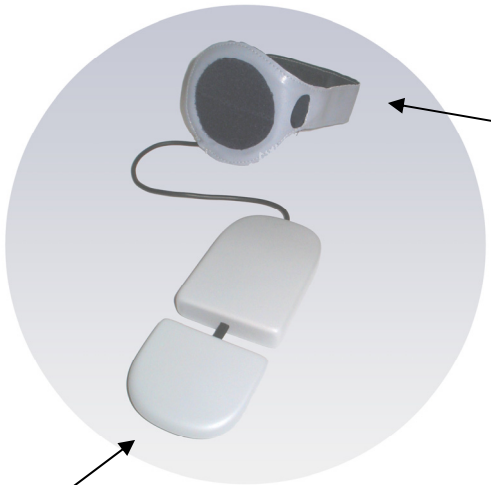


We submit a **questionnaire** to a group of **44 persons**: blind and visually impaired, all members of web- groups working on the themes of accessibility and everyday autonomy.



The **93%** of interviewed considers **critical** the possibility of recognizing clothes, own objects (as compact discs, boxes, etc…) and their features, instantly and without recurring to their memory, to a very precise disposition of objects at home (with the possibility of doing mistakes), or to other persons.

GLIDEO is composed of two connected parts:



“**Manale**”

it contains the antenna, and:
- permits to read and write RFID tags, by pressing the read button.
- was designed to be comfortable and wearable with only one hand, Without obstructing movements and tactile perception of the user

The “**electronic part**” contains:

- **RFID** reader module
- bluetooth module
- rechargeable battery

- it’s always connected with “manale”, with an electric wire.
- it can be weared as a bracelet or as a pendent

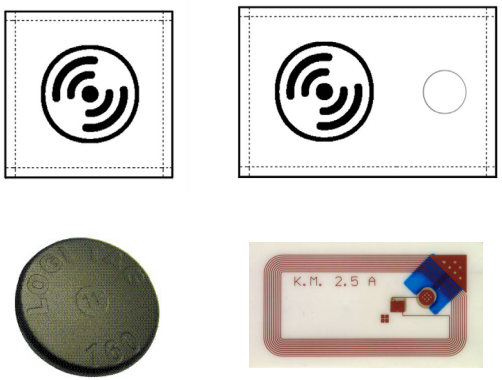
“Bracciale”
a bracelet with
the RFID antenna
situated on the
palm of the hand

Two ergonomic wearable containers for wearing the electronic part

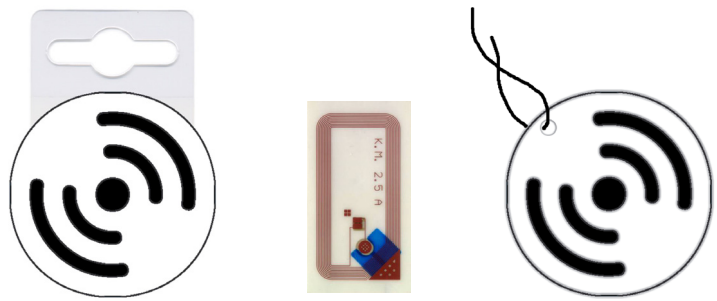
“**Ciondolo**”
a pendent, that the user wears as a necklace, with an extensible wire to allow a comfortable reading of the tags

Users could be provided with:

a **“personal kit”**
of electronics tags for the blind user
(for labelling his own items),
that could contain different kinds of RFID tags:
washable for clothes,
adhesive for compact disks or other products, etc…



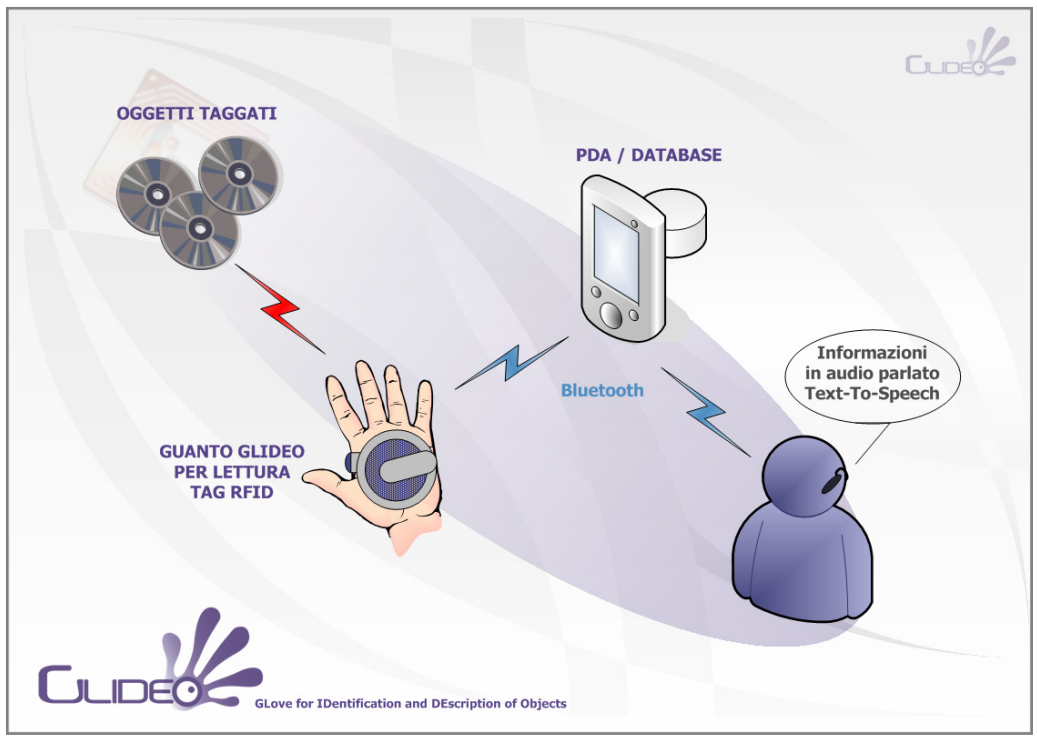
a kit of **tags for the shops**: adhesive, tactile tags that the shop assistants can place in different points in the shop, to give blind people information about goods, prices, discounts, etc…



The system will run in this way:

The reader, set to operate on demand-read mode (holding the apposite button on the “Manale”), reads the **RFID tag’s ID** and sends the information, via bluetooth, to the **PDA.**

The software on the **PDA** manages the received information and sends it
to the headset as audio message, trought a
“**Text To Speech**” software



Main features of the PDA:
- it contains the information’s database relative to the personal tags of the user;
- Text-To-Speech software
- Bluetooth module
- Wi-Fi module to connect to the information’s database in the shops and public spaces.

Simply using **GLIDEO**, the **RFID** tags and an accessible **PDA**, the blind user:

- when is looking for specific products,
he can “read” them simply placing the Manale’s antenna near the tag on the product, and immediately listen through
the earphone to the previously stored information.

- When in the shops,
the user can read the **tactile tags** placed
by the assistants
(on the front door, on the shelves, etc…)
and so all the information about the kind of shop, prices, discounts and features of the products are accessible.

in this case the PDA will connect directly via Wi-Fi with the database of information contained in the shop’s computer.

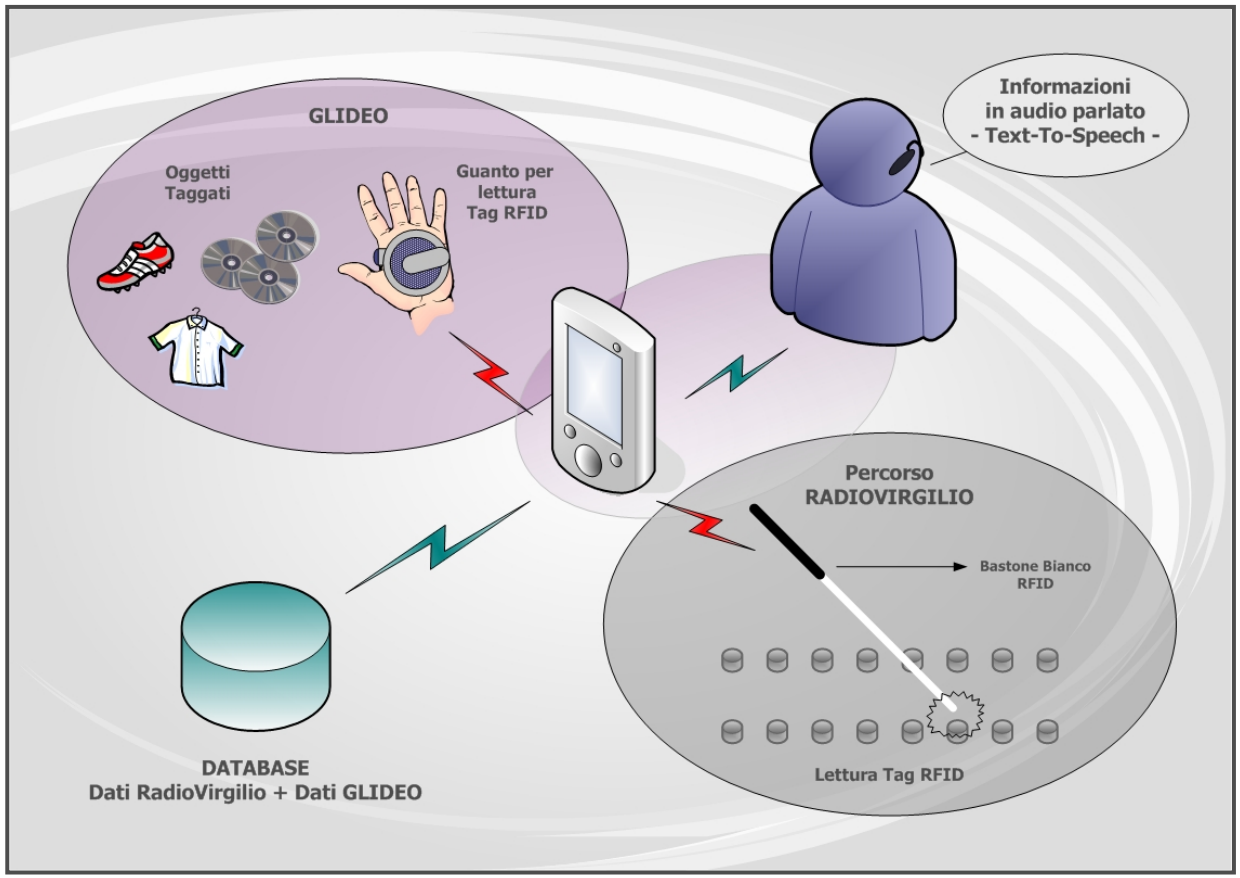
AWARDS

- WINNER of the “Design for All & Assistive Technology Award 2004 - Daily Living” promoted by the **European Commission**

- WINNER in the: “Designing a Sustainable Future 2006” competition, of the “**NOKIA AWARD 2006**”

- Finalist at the contest: “**Handitec 2006**”

Future Developments



Integration between GLIDEO and RadioVirgilio/SESAMONET

contacts

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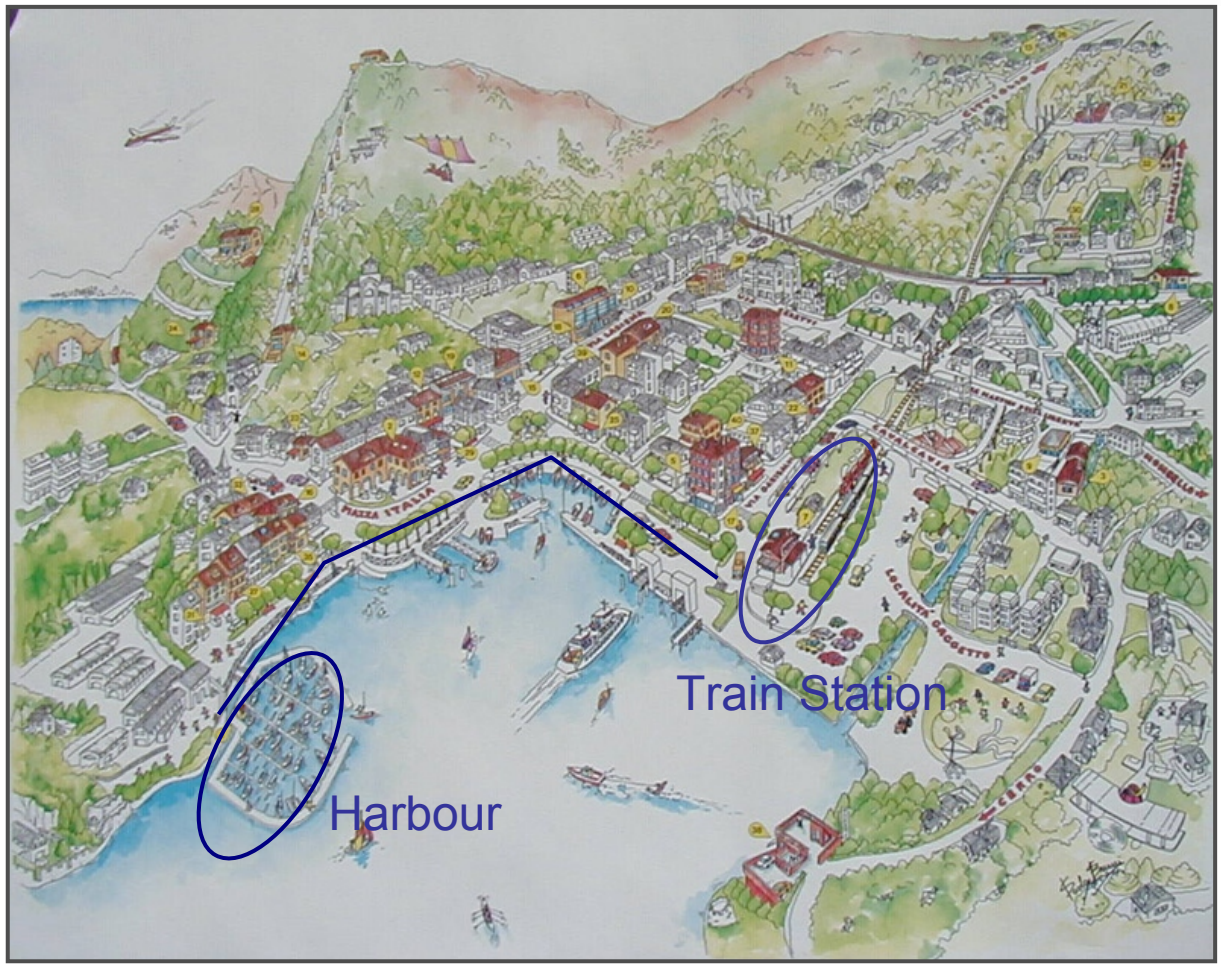
RFID Lab

http://w3.uniroma1.it/rfidlab

Pilot Project 1



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Pilot Project 2

romawireless In collaboration with **RomaWireless**