

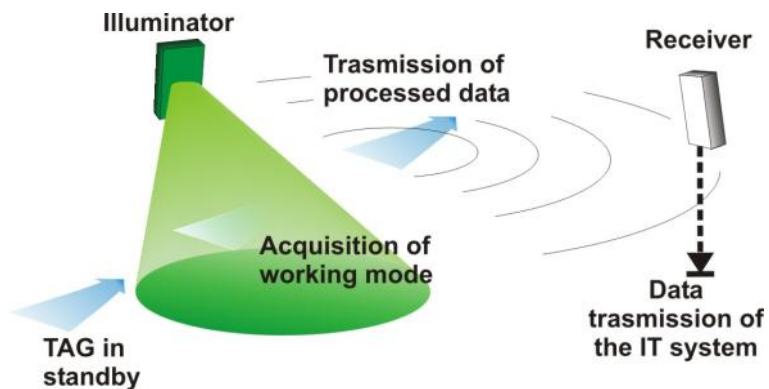
Radio Frequency Identification

In the last years wireless technologies are really spreading. Many companies, in Italy and abroad, found their data communication systems and data exchange on these technologies. Surely their flexibility and their invisibility are the reasons for their diffusion.

In this huge range of different solutions, **Advanced Microwave Engineering** authoritatively positions itself in the market with its active transponder system called **Lux** (that we pronounce "links").

Lux is an identification system made of three different devices:

- the Activator LX2101, a microwave transmitting unit
- the tag LX1004, a double frequency transponder
- the receiver LX2002, a radio frequency receiving unit.



How it works

The transponder is normally quiescent, until it gets activated by the microwave device that awakes it. Only then the tag starts up, reads the signal transmitted by the activator, runs all the necessary operations and then transmits its code and the requested data to the receiver.

The peculiarity of **Lux** system's transponders is that they use two different frequencies, one for the activation and one for the reply.

The most important advantage of active systems

- powered by a battery and so independent from the electromagnetic field generated by the reader, like in passive systems
- is that they can reach much longer operating ranges (meters or tens of meters instead of centimeters).



Transponder LX1004

The LX1004 transponder is used to identify both persons and vehicles. It's activated at 2,45 GHz and replies at 433 MHz

Lux, using transponders that generate their frequency on board, gives you a great signal reliability in the down-link section and a great flexibility in the communication in respect of passive back-scattering systems.

Application fields

Automatic identification systems, microwave or RF based, are indispensable tools for modern applications in many fields: home automation, domotic and work automation. In the fields of safety, access control, home/building/factory automation the **Lux** system has performances incomparable by other systems, thanks to the precise and intelligent management of the activation and communication functions.

Advanced Microwave Engineering



Ricevitore LX2002

E' l'unità che riceve i dati trasmessi dal transponder. Può operare connessa ad una rete dati o in modalità stand alone.

Main features

- Double frequency identification system
- Tunable activation range (up to 15 mt.)
- Wide communication range in reply (up to 80 mt.)
- Precise spatial definition of the activation area
- Multi-receiver mode
- Very low consumption for a long battery life. The transponder, with a 20 mm. button battery has been tested for 150.000 cycles.

Technical specifications

- Activation frequency: 2,45 GHz
- Reply frequency: 433 MHz
- Tag power consumption while transmitting RF 25 mA; while receiving MW 4 mA; in stand-by 1.5 μ A

Lux allows for the automatic identification of people or vehicles as soon as they approach the check point. It is also used with great success to monitor and support data communication and transmission in fairs and exhibitions, to automate gates opening, to manage parking, to handle toll payment, for fleet management, in logistic projects and for asset management.

Advantages

In many applications **Lux** has undoubted advantages in terms of easiness of use. **Lux** can cover any transponder activation range up to 15 mt.; the transponder, on his side, can communicate with high efficiency with the receiver up to 80 mt. far away.

Lux technology allows the making very complex systems at affordable prices, permitting the automation of industrial but also domestic installations.



Illuminatore LX2101

E' l'apparato che tramite un raggio a microonde, attiva il transponder.

EGO - HOME REVOLUTION

How many times looking for your remote control to open your gate or your box is a real nuisance? It seems that it learned how to hide in the car ...

Advanced Microwave Engineering gives you a little but effective solution: EGO HOME REVOLUTION.

Little, because opening your gate is surely not your biggest daily trouble... but... you know... at the end of the day you only need the last straw to break the camel's back.

And little also for the space that it takes: it fits the palm of your hand... but it doesn't like to stay there!

Here's why

In the last years 'hands-free' devices are having a huge spreading. They make automatically their tasks, without the need, for the user, to push any button.

That's why Ego doesn't like to stay in your hand... It doesn't need to!

A remote control must be found, handled, pushed and then put down. EGO recognizes your (and obviously your only) gate when you approach it, and automatically opens it.

Effective! Don't you think so?



Easypass is the first product for opening gates without remote control and belongs to **EGO Home Revolution** products line.

How it works

The way EGO works is really simple: A.M.E. provides you the antenna to be connected to the opening system of your gate and the transponder that send the opening request when it is in a range of several meters from the antenna.



In the box A.M.E. provides you also the master transponder that use the same frequency, ready to be used. When you need to have more vehicles with the transponder on board, you can also buy it individually.

Thanks to the special firmware, to program them is really easy. You only need to clone the new transponder selecting the 'program mode' on it and keeping it near the master transponder, the one that comes with the antenna.

Even if installing is very easy, A.M.E. includes the instructions manual and, if needed, an online help desk.

AME develops, designs, prototypes, and industrialises wireless and RFID (Radio Frequency Identification Technology) systems and sensors for industrial applications.

AME analyses the unique aspects in each specific context, and develops proprietary systems and products characterised by high technological and innovative content, which can respond dynamically to the customer's unique needs.

Our strategic objective is to use all our skill and reliability to penetrate the market sectors of security, home/building/factory automation, teleservices, access control, and all applications which employ wireless technology and environmental sensors.

To offer a top-notch product, you need technical and strategic skills working in synergy.

On a technical level, AME can draw on knowledge and skills related to:

- Sensors, antennas, and front-end solutions for millimetric waves and microwaves;
- Data gathering and processing of digital signals;
- Communication protocols;
- Wireless short-range MW/RF systems for industrial automation and communication networks;
 - Bluetooth;
 - Software interfaces and multimedia systems.



Access control board, 4 input



Owing to the experience it has acquired through participation in EU projects in the ICT sector (ISTAG), AME has already pinpointed a strategy for the development of innovative products and services to introduce in coming years, once the market has become adequately mature and receptive.

The success of early products, in fact, is making it easier to start up a “virtuous cycle” of innovation at the level of both products and services, capable of meeting the emerging demands of the market and following its stages of maturation.



In complex projects the solution is rarely achieved with one only technology.

AME covers a whole range of products and services in the RFID world, both with its own active transponder products and with best passive systems providing.