# WHY RFID?

- Save a variety of information
- Rewritable and reusable
- Simultaneous identification of multiple objects
- No own energy supply required
- Protection against dirt and mechanical action
- Different available ranges
- No visual contact necessary thanks to radio
- Can be extended to include sensor technology
- Less expensive than comparable technologies

https://www.iis.fraunhofer.de/en/ff/lv/net/rfid.html

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# RFID
## TECHNOLOGY CONSULTING & DEVELOPMENT

## AT A GLANCE

RFID enables wireless identification of various objects using electromagnetic waves. This relies on the exchange of data between a read/write station and an RFID transponder attached to an object.

The transponder, also known as an RFID tag, consists of an antenna and a microchip containing the desired information.

The RFID reader, a read/write device consisting of a transceiver and a specially adapted antenna, reads the data on the tag's microchip. It sends data to and from the transponder and also supplies it wirelessly with power.

**Three essential characteristics of RFID:**

- Unique and individual identification of objects
- Data can be modified, added or deleted
- Simultaneous detection of several objects with transponder

# TECHNOLOGY CONSULTING
## IN WHOLE OR IN COMPONENTS

Fraunhofer IIS has comprehensive technical and practical know-how to assist you as you introduce RFID systems.

We have access to state-of-the-art measuring techniques and methods, to conveyor technology, as well as to an entire test center for simulating real application scenarios.

We offer you a **full package**, which you can use – adapted to your requirements **– in whole** or **in components**.
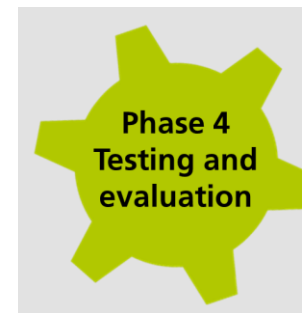
**For further Information:**

https://www.iis.fraunhofer.de/rfid

## Phase 1 Preliminary discussion

We clarify your individual **expectations** and get an overview of the **potential for optimization** in your use case.

## Phase 2 Technology workshop

In our technology workshop, you will learn **all about RFID**. We identify specific **problems** and benefits of RFID and work with you to select the best possible **basic technology** for you.

## Phase 3 Market research

Through in-depth **market research**, we provide you with an **overview** of the reading stations and tags on the market, as well as their availability, performance, price and approval. From this we derive **recommendations for action**.

## Phase 4 Testing and evaluation

We then test suitable basic technologies for you in a **realistic** setting for your application scenario. Tests can be carried out at our **L.I.N.K. Test and Application Center** or **on-site** at your premises.

## Phase 5 Concept development

Based on extensive research, we develop the **specific approach** for implementing your RFID system. Together we determine quantities and check possible interfaces.

## Phase 6 Further support

Even after the RFID implementation, we are there to support you as a **neutral partner**. We provide you with an overview of technical **developments** and **support** you at any time in the event of difficulties.

## APPLICATIONS

**RFID technology is extremely versatile:**

- Logistics
- Manufacturing
- Access Control
- Asset Management
  and many more…

## AVAILABLE FREQUENCIES

**Ultra High Frequency (UHF)**

868 to 915 MHz

➢ High range and data transmission rate

**High Frequency (HF und NFC)**

13,56 MHz

➢ Large storage capability

**Low Frequency (LF)**

119 to 134 kHz

➢ Robust data transmission