

# TTO

## Prototypes:

### Radiosonde:

A radiosonde is a meteorological instrument which, launched under a balloon, measures parameters such as pressure, temperature, humidity and wind (direction, velocity) in the atmosphere and transmits data to the ground station for further processing related to weather forecasting. This device is one time use since it is carried by the balloon that explodes at high altitude (20 Km high). Egyptian Meteorological Authority (EMA) is one of the main users and consumers of radiosonde devices. The proposed system as part of this research aims to overcome the current imported system drawbacks and weaknesses, improve performance and features, along with the economic and social benefits from the designing and implementing this device to serve and satisfy our national and regional needs. Thus, the main objective is designing and implementation of The Radiosonde Transmitter Device along with the ground station nationally in competitive cost compared to current imported systems.

### Red Palm Weevils Eradicate Device:

As red palm weevils is huge problem in agriculture that affect the palm tree in Egypt and most of countries, Team from MSA graduate under supervision of Dr said Mabrouk has developed a device using safe electromagnetic waves to get rid of the weevils instead of using chemicals that is very harmful to the tree and the device has proved its success by testing it in many farms and analysis for the results in red palm weevils research center.

## Final products:

### Automatic agriculture weather station:

First Egyptian agriculture weather station made in Egypt by MSA graduates from faculty of Engineering through their start up company “short circuit design co “ ,under supervision of Dr Said Mabrouk in by effective and competitive cost lower from the foreign stations by 60 % , this stations is used for measuring different parameters for weather and soil as temp , humidity , wind speed , wind direction , soil temp , soil moisture , EC , soil salenty and other parameter as needed , these parameters are sent on local server , web server ,or cloud as the clients need , many applications done on the data sent for diseases forecasting, calculating the Eto which indicates the water quantity required for irrigation , Fertilization status , affect and many different applications can be done for smart agriculture