Replicator™

Environmental DAQ, Monitor and Emulator system

Real environmental conditions of any place are replicated in another remote location!

Scientists and Researchers have a new reason to be happy!

Ideal for :

- Alternative energy sources
- Agriculture
- Climate Change
- Research
- Comparative analysis

Any Weather

Any Location

Any Application

Web Monitoring

Emulation

Lab Research

Climate Chamber

Any Case

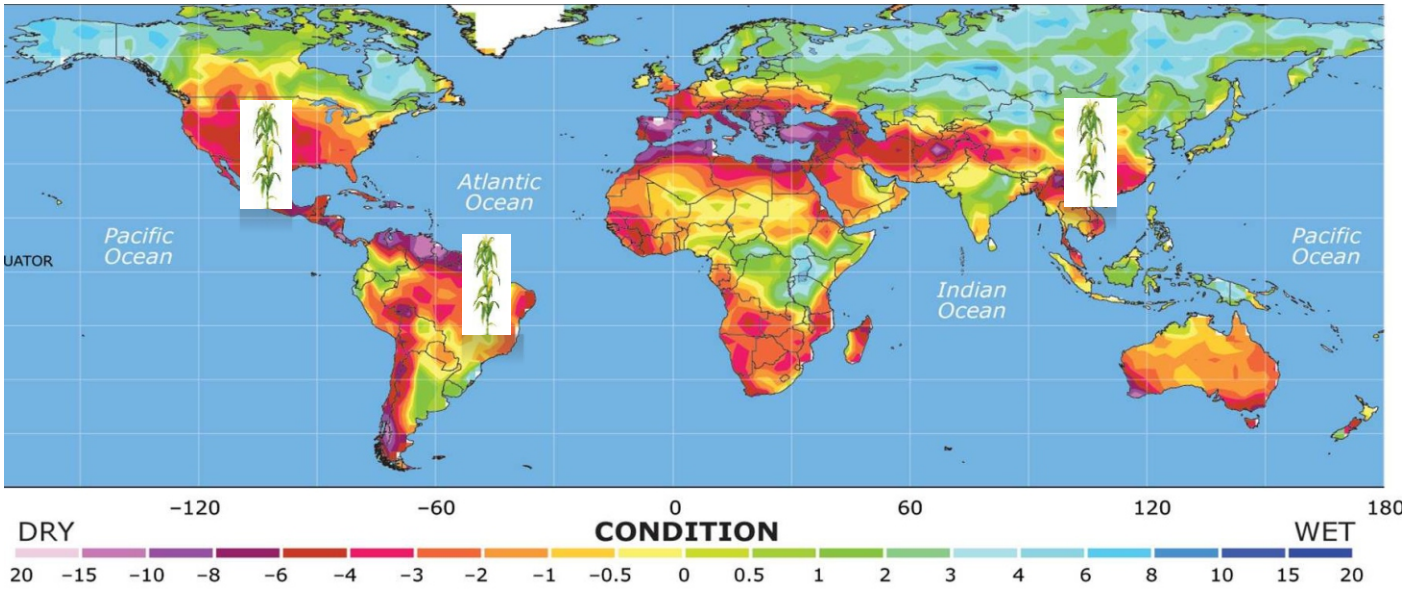
Agriculture

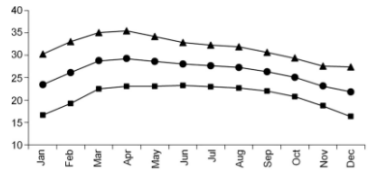
Solar Energy

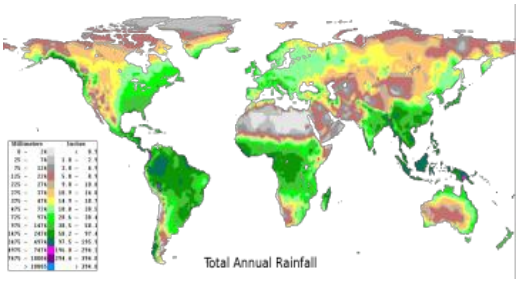
REPLICATOR Remote Environment Emulator

Food and Climate Change

Imagine that you can analyze the effects of the environment on agriculture, food production, rainfall patterns or simply perform REAL experiments (and not simulations) on different locations…. Almost like you were there!





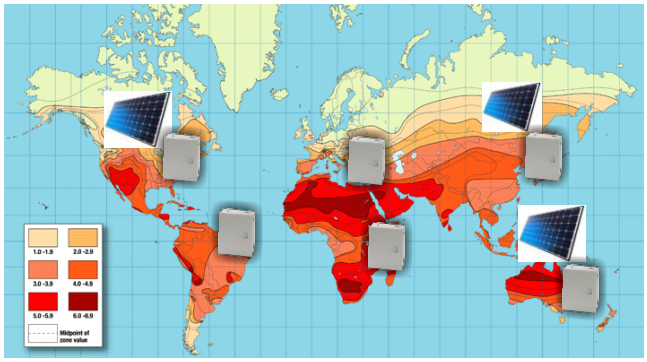


Both specimens, the remote and the local one, grow under the same environmental conditions. Scientist and researchers can see the plants growing from the comfort of their labs!

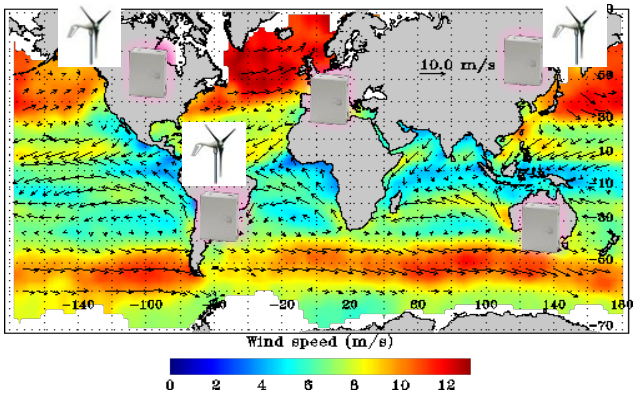
Renewable Energy Sources

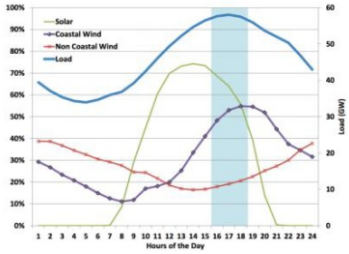
Now you can have real time data of solar radiation and wind patterns of a given place in the world directly in your lab. Multiple locations can be simultaneously studied with very low cost equipment which bring all the data to your lab…

Global Solar Radiation

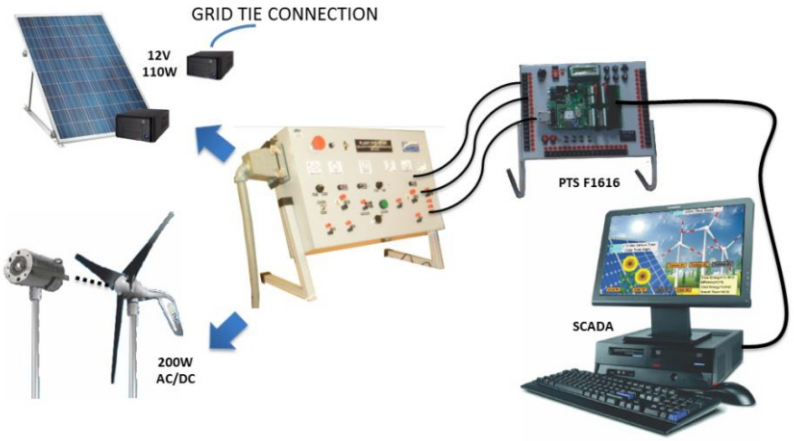


Global Wind Patterns





Online Data



Only low cost sensors are located in specific places, in addition to all the collected data, energy production can be simulated in local labs for further analysis.

REPLICATOR Remote Environment Emulator

The Replicator

A Replicator is a system formed by two parts:
The sensing and measurement elements which can be located remotely and the Lab system, which reproduces the same environmental conditions experienced by the remote devices.

Sensing Device

Information

Lab System

Origin.

The Replicator ™ is based on another of our successful product/technology : Smart Monitoring Systems (SMS). These systems are designed for industrial applications and allow monitoring of several type of variables related to industrial processes and machinery. The experience on several types of communications has been brought to the Replicator.

Advantages.

- Drastic reduction of research costs as there is no need for continuous traveling to the place.
- Real environmental conditions and not simply simulations.
- Real tracking and monitoring of variables
- Low cost systems.
- Real low cost set up costs.
- Stand-alone self-powered units.
- Multiple communication alternatives

Applications:

Agriculture, Climate Change, Adaptation, Resilience, Food security, Food Production, Irrigation, Solar energy Evapotranspiration, Solar generation, Eolic energy, Eolic Generation, Solar radiation, solar pattern, wind pattern, energy saving, alternative energy.

Communications

There are several ways to communicate the equipment

Small distances

- Rs232: Cable, 9 meters, 3 lines, 1 equipment
- Rs485: cable, 1Km, 2 lines, up to 255 Devices
- Ethernet/Internet: Internet access, TCPIP port

Medium distances

- Radio: 904 Free spectrum, 10km, 232/485 ports, Rubber duck antenna
- WLAN: Wireless LAN,
- Parabolic: 904 Free spectrum, 300km, 232/485 ports, Parabolic antenna

Long distances

- Ethernet/Internet: Internet access, TCPIP port
- GSM/GPS/GPRS, Satellite.

Power

- **Remote**
  The remote system can be powered by AC voltage, DC voltage or Solar/ battery systems.
- **Laboratory**
  Lab systems can are powered by AC voltage and/or UPS systems only.

REPLICATOR Remote Environment Emulator

Climate Change

Topics: **Agriculture, Climate Change, Adaptation, Resilience, Food security, Food Production, Irrigation, Evapotranspiration.**

The future of is based on finding ways to feed a growing population with a food production menaced by the effects of climate change and very harsh environmental conditions.
Scientists and Researchers need to find ways to help the adaptation process of vegetable species in order to make them resilient to future climate change conditions. This is the first low cost system for perfect re-creation of external environmental conditions of vegetable species on a climate chamber.

Real weather conditions of any place of the world are replicated in another remote location!

102 °F

80 LPW **83 RH**

Replicator

Radio, Parabolic, Satellite, Ethernet and Internet communications

Environmental conditions fully replicated!

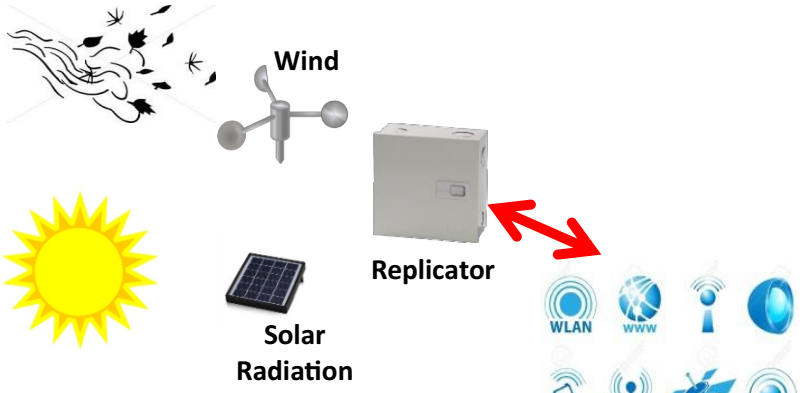
FIT 17 HTL

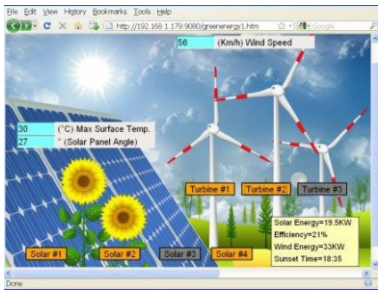
The Replicator senses the real environmental conditions of a specimen located far away and literally replicates the same conditions for all lab specimens. No matter where you are located!

Alternative Energy Generation

Topics: **Solar energy, Solar generation, Eolic energy, Eolic Generation, Solar radiation, solar pattern, wind pattern, energy saving, alternative energy.**

Research on alternative energy is a growing field. Most of the times, locations where the weathe r conditions are suitable for the location of Solar panels and Eolic generators are far away from the research laboratories. Now you only have to install the replicator in your place and the sensing elements in any place of the world.





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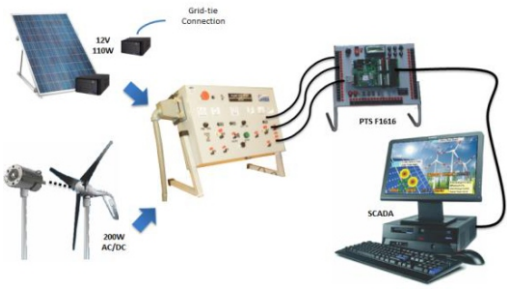

The Replicator, installed in a remote location, measures the solar radiation, wind speed and other parameters and transmits the information to the lab simulator where you can track in real time all the energy generation. Grid tie connection inverters are available for real energy saving with local alternative energy source systems.