



Reliable data to achieve the SDGs

Alicia Asín, CEO Libelium



New challenges for a new era



Climate changes

Rising temperatures and water shortages put all life forms on Earth at risk.



Economic changes

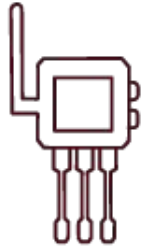
A new paradigm of competitiveness linked to sustainability.



Technological changes

Increasingly complex technologies that must learn to talk to each other.

IoT 1.0



We connect the real world
with the digital world



Sensors send data to
the Internet through
wireless connectivity



The information is analyzed
in the cloud to set alerts and
make decisions

Precision agriculture in organic crops



THE CHALLENGE

Make profitable and automate an organic crop by integrating sensor data with irrigation actuators.

THE SOLUTION

Libelium Plug & Sense! Smart Water and Plug & Sense! Smart Agriculture Xtreme sharing data via WiFi.



Sardinia, Italia



Smart Agriculture



Plug&Sense! Smart Agriculture
Plug&Sense! Smart Water



WiFi

The solution provides us useful information for the implementation of actions aimed at improving the growth of crops, especially tomatoes in greenhouses

Giorgio Oggianu
Manager of Agribio cooperative



Scottish salmon health monitoring



THE CHALLENGE

Monitoring the water quality of 35,000 salmon in a large fish farm in one of the most remote locations in the UK.

THE SOLUTION

10 Libelium Smart Water devices with sensors for pH, temperature, salinity and oxygen sharing data via 5G.



Scapa Flow farm, Orkney Islands, Scotland, UK



Smart Water, Precision farming



Plug&Sense! Smart Water



5G

“We can look at monitoring fish performance, fish growth, remote sea lice counts, do remote plankton monitoring as well”

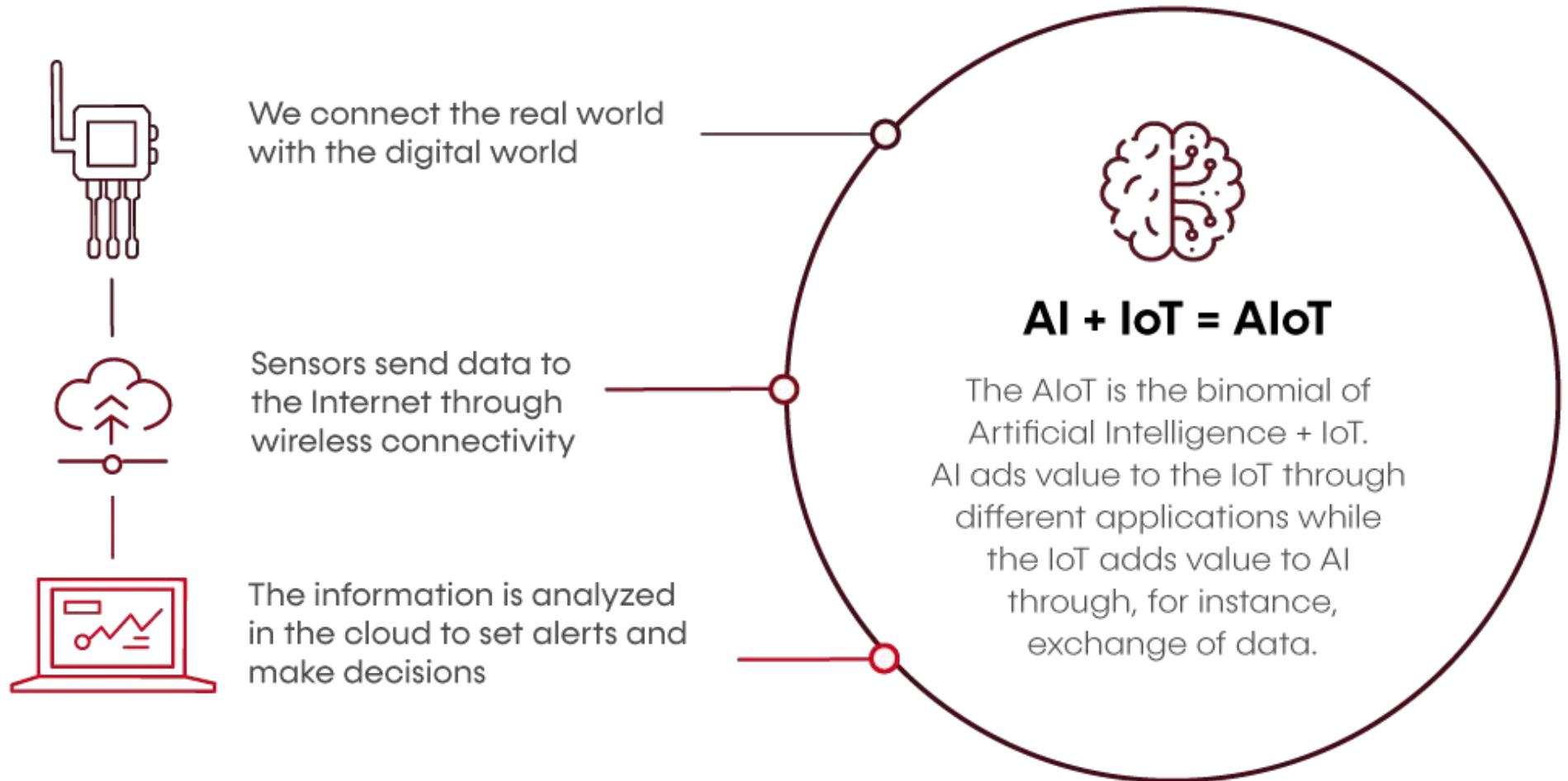
Richard Dirbyshire

Regional Production manager of Scapa Flow farm



IoT 1.0 Digitise processes

IoT 2.0



Vehicle detection at gas stations for better pricing



THE CHALLENGE

Knowing cars that enter and leave or pass by the Grupo Zoilo Ríos service stations to adjust pricing and open hours.

THE SOLUTION

1x Meshlium Scanner



Zaragoza, SPAIN



Smart Industry



Meshlium Scanner



Bluetooth
Ethernet

“Due to COVID, people's behaviors are changing and we have to continually adjust schedules”

Ignacio Hombreiro

DYNGAS at Advance Soluciones Product Manager



Smart Farming with Blockchain

THE CHALLENGE

FAO estimates that livestock production is responsible for 14.5% of global GGE, a large part caused by the enteric fermentation of ruminants.

THE SOLUTION

Libelium Plug & Sense! Smart Environment PRO to monitor temperature, humidity, particulate matter and gases(NOx, COx, CH4, NH3, etc.).



Alexandria, Romania



Smart Environment, Smart Farming



Plug & Sense! Smart Environment



LoRaWAN
WiFi

“The solution also enables the implementation of smart contracts that guarantee the best prices for agricultural products resulting from processes with low greenhouse gas emissions.”

Adrian Pasat

Research Assistant at Beia Consult International

IoT 1.0 Digitise processes

IoT 2.0 Optimise processes

IoT 3.0

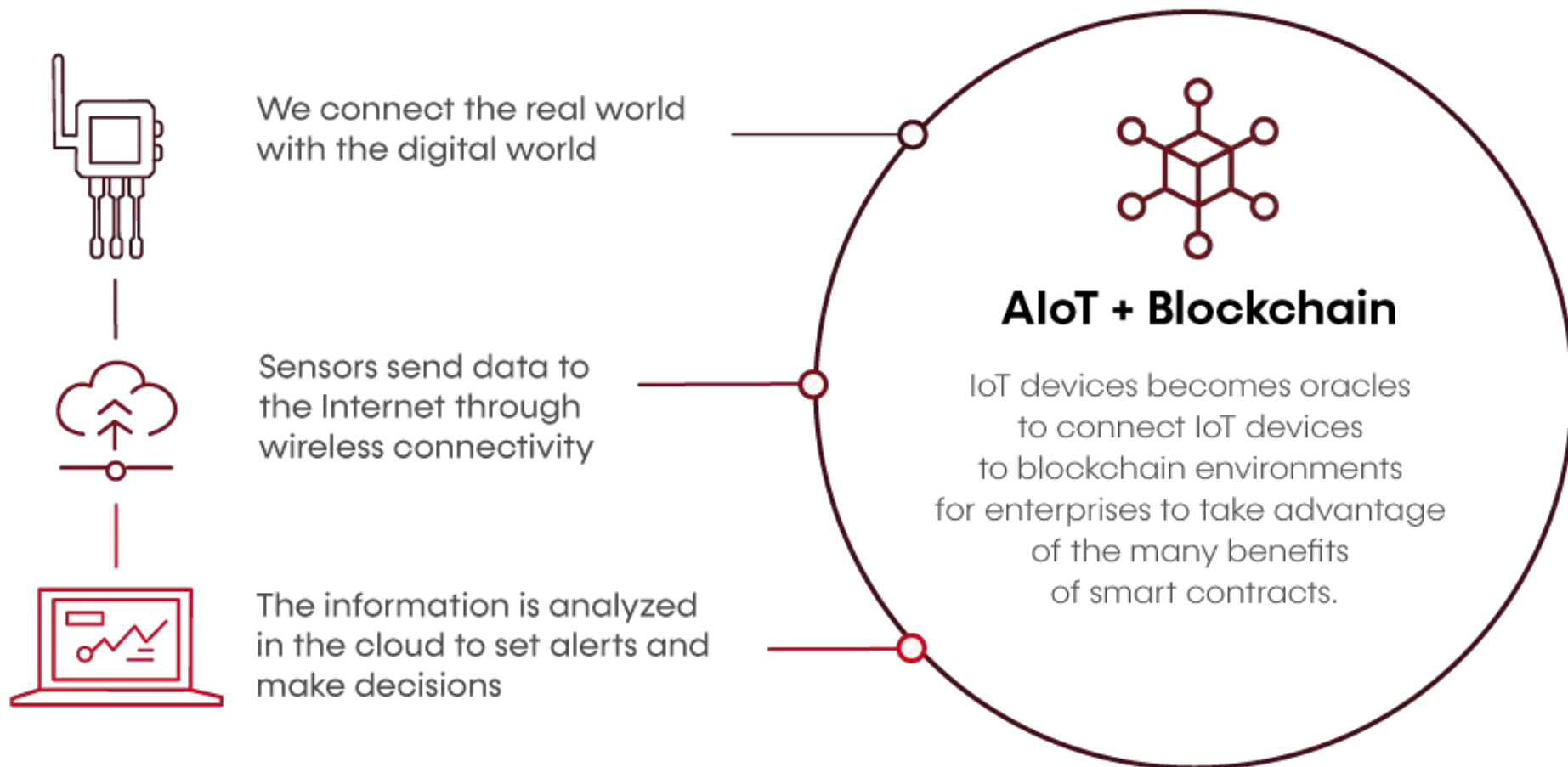
We need assured
data



to take assured
decisions

Datacracy
/deɪ'takrəsi/

IoT 3.0



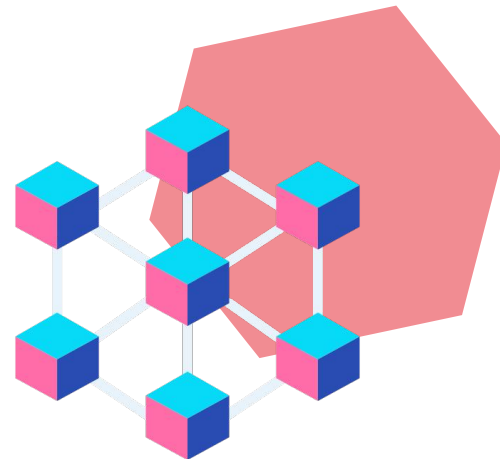


OFF-CHAIN

Quality data sensors



ON-CHAIN



Quality data sensors



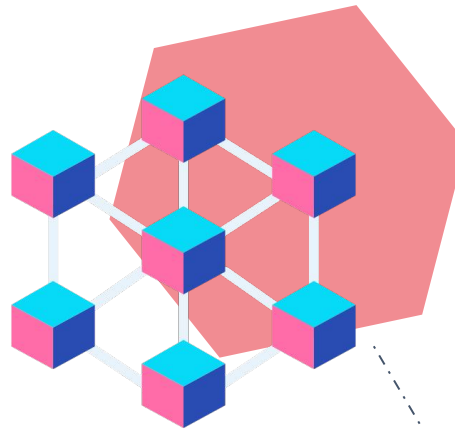
Web APIs

**Currency
data**

**Gubernamental
data**

**Market
data**

Bank data



One challenge
on circular economy:
Due to fire events,
recycling plants' premium
has increased by 500%



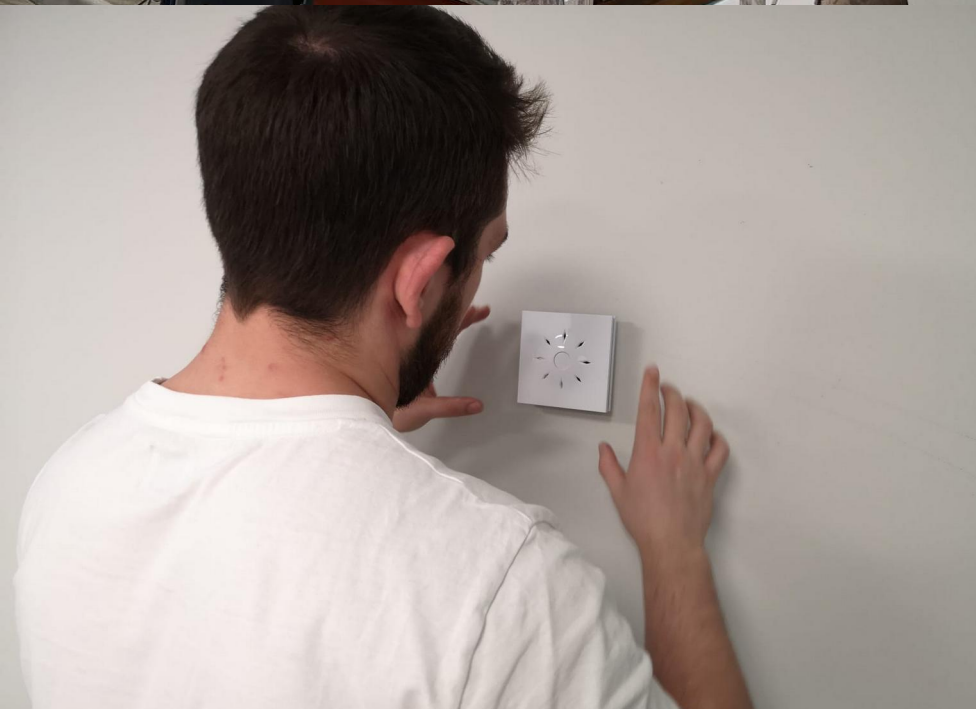
Cooperate with insurance

Recycling

+ IoT

+ Insurance

= **Assured businesses**



IoT 1.0 Digitise processes
IoT 2.0 Optimise processes
IoT 3.0 Assured data to ensure
processes and insure
businesses



Behind the change. Beyond the challenge.

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