



MINISTRY OF ECONOMY,  
ENVIRONMENT AND AGRICULTURE  
OF UKRAINE



“Program to support the reactivation of  
the economic potentialities of the agri-  
food sector” - Pro.UKR

**Innovative start-up as opportunities for Young  
agronomists**



*Carmelo Sigliuzzo*  
CIHEAM Bari expert

Online via Zoom - Wednesday, 12  
November 2025

# The global contest: great contradictions and challenges

Given the geometric progression of the demographic trend, by 2050 the world production system will have to:

Produce food for an estimated population just over

9 billion people compared to:

- contraction of arable lands availability;
- limited water sources.

Needs:

Doubling the actual production,  
.....not doubling water consumption;

Increasing input (no-chemicals?) and energy (which source?)

How?

Through the sustainable management of plant production factors, respecting natural resources and territory.



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# Farming uses:

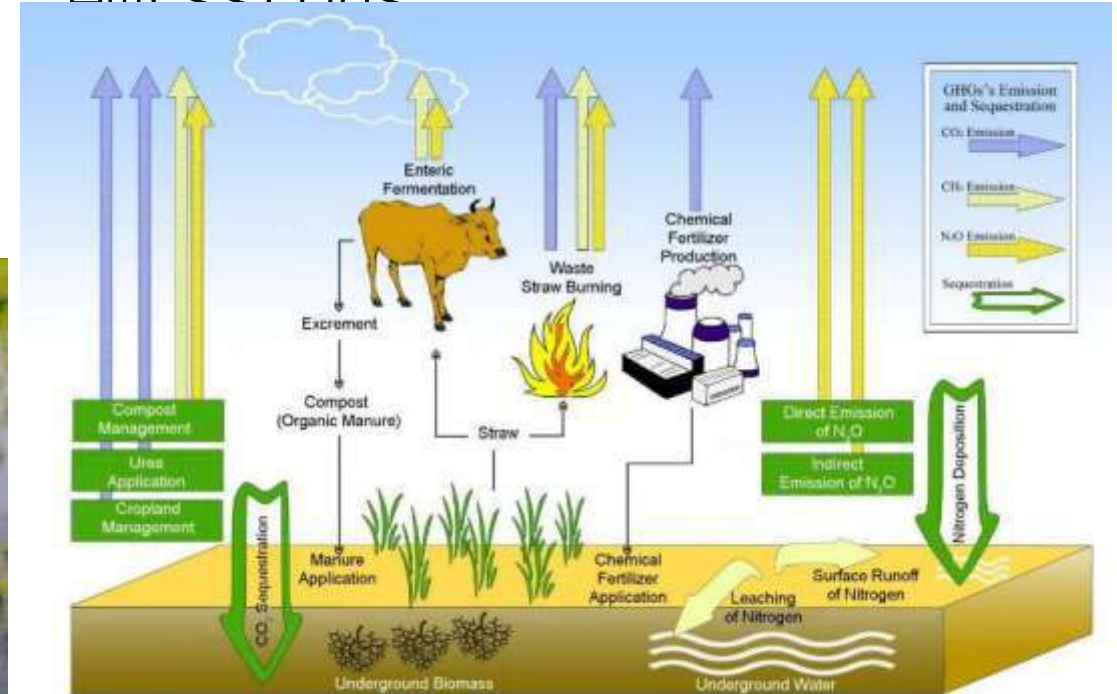


44% of the world habitable lands

70% of fresh water



Generates 30% of greenhouse gas (GHG) emissions



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On the other side, farming....  
feeds 8.2 bn people



employs 27% of the  
world's workforce  
(despite having  
decreased).



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1960, the land required to  
feed one person for a year  
was 1.4 ha  
It has fallen at 0.6 ha  
in 2025



Global ly, we are  
suppl ying more  
cal ori es per day than  
we have ever done.  
These are impressi ve  
credenti al s.



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# New model of farmer



While in total we now use more land, resources and water, we are feeding vastly more people than we were in 1960 - indeed the global population has almost

A modern farmer is business-oriented, technically skilled, cares for the soil and environment, controls costs, is specialised, knowledgeable and professional, and also forward thinking.



(\*) Paul Wilson - Professor of Agricultural Economics at Nottingham University



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# How to tackle challenges



A modern farmer has understood that can't be alone!

Key words:

- Aggregation;
- Food chain



POs have the main purpose of strengthening the collective bargaining power of farmers:

- ✓ concentrating the offer;
- ✓ improving and expanding its commercial channels;
- ✓ providing technical and logistical assistance to its members;
- ✓ contributing to quality management;
- ✓ transferring knowledge.

Food chain: sequence of the stages and operations involved in the production, processing, distribution and handling, of food and feed, from primary production to consumption.

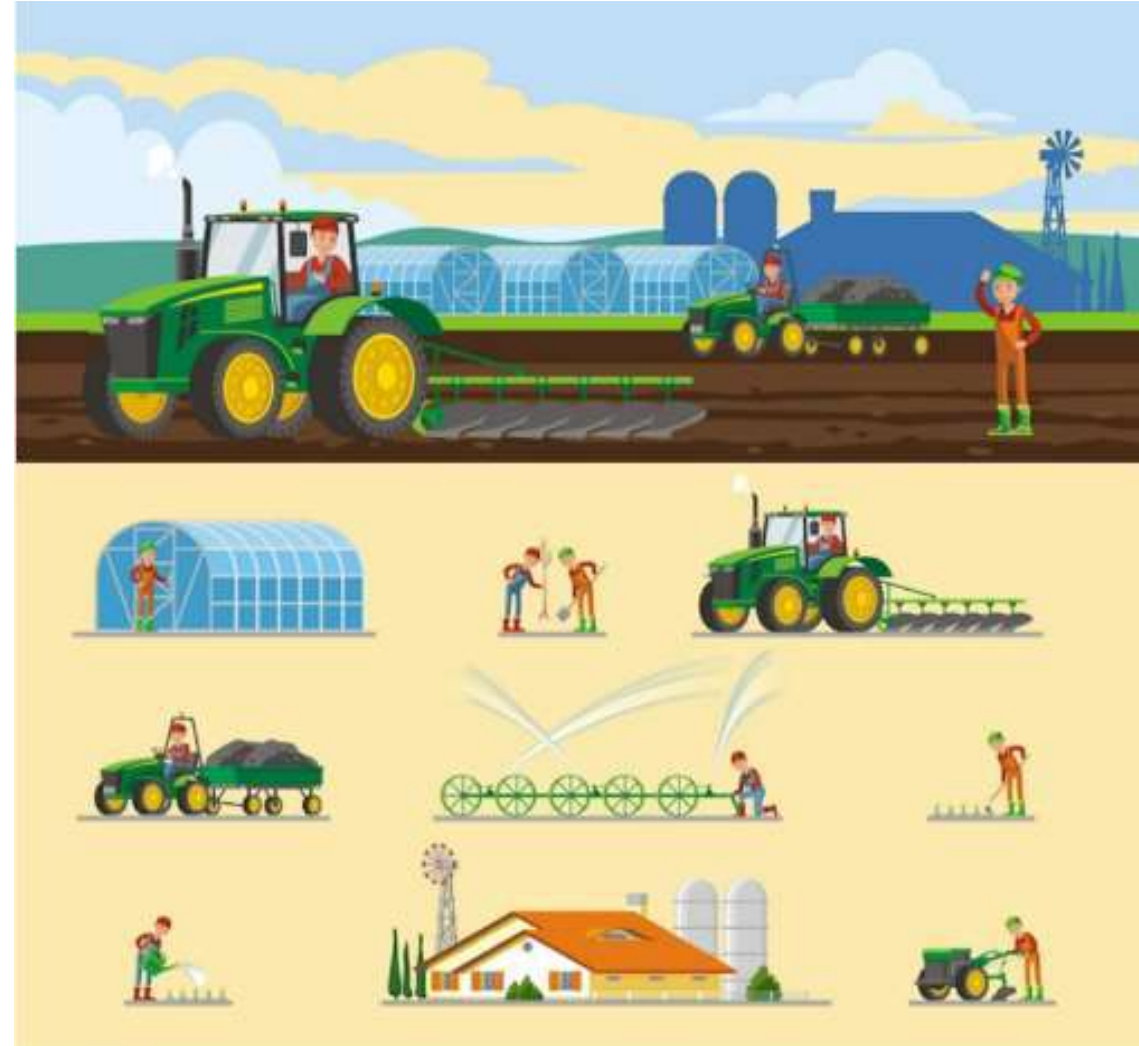


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## About Food chain

The values of the food chain:

- Sustainability (GAP/ICM/Organic);
  - Ethics;
  - Food safety (GMP);
  - Nutritional value, lifestyle and marketing.....
- and whatever you think to be considered as important to be shared.



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The challenge is on: it's up to you to lead the  
change  
Some innovative start-ups supported by  
CIHEAM Bari





Tunisia

Year of establishment 2022

Our startup is transforming modern agriculture through **AI-driven automation** and **smart sensor networks**. Temperature, humidity, irrigation, light, and ventilation are all **monitored and controlled automatically**, ensuring **optimal plant growth**, **efficient water and energy use**, and **sustainable production all year round**.

### Our Slogans:

“Intelligence for your crops.”

“Smart Greenhouse – Smart Growth.”

[www.feedin.com](http://www.feedin.com)



*Fruitful Solutions delivers modular and automated vertical cultivation units with high yield controlled using a mobile/web application.*







Jordan

## Smart WTI

Year of establishment 2021

*WTI is a start-up business specializing in delivering all types of **water management systems** to the residents of Jordan.*

*Our vision is to provide safe, sustainable and affordable innovative solutions to people who need it, enabling development, empowerment and sustainability.*

SMART WTI develops and implements **IoT- and AI-powered smart water and energy management solutions**, which can be **monitored and controlled remotely** through its **cloud** platform and **mobile** applications. Its systems, including smart sensors, controllers, and leak detection devices, **optimize water consumption**, reduce operational **costs**, and enhance **energy efficiency**. The company also provides local support, maintenance, installation, and a service model that allows clients to access the technology without direct purchase.

<https://smartwti.com/>







Kenya

**InspCorp**

Year of establishment 2018

InspCorp's Solar F2 solution redefines Agri-Photovoltaics through proprietary light-distribution technology that eliminates shading across the cultivation zone, simplifies system design, and integrates advanced rainwater management.

This enables the precise cultivation of diverse crops based on their light needs, achieving optimal yields and solar generation efficiency without trade-offs. By maximising rainwater capture and reuse while minimizing rainfall damage to harvests, Solar F2 strengthens AgriPV's contribution to climate resilience and sustainable water management across all climates.

[startup10medafrica.com](http://startup10medafrica.com)  
[info@startup10medafrica.com](mailto:info@startup10medafrica.com)

*InspCorp is a research-based technology transfer startup led by a team of Engineers and Environmental Specialists that are committed to the development of difference-making technologies in **Energy** and **Food Security**, **Environmental Conservation** and **Economic Revitalization**.*

*We are on a mission to empower people and communities to build local circular economies through inspired innovation, advancing the world to a cleaner, healthier future.*





# Fruitful Solutions



## EGYPT

Year of establishment 2025

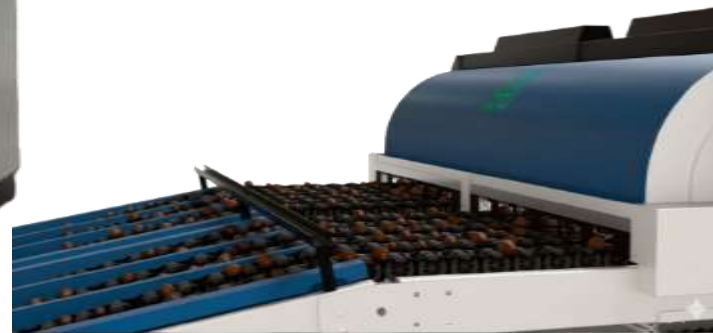


**FRESHSORT MACHINE-**  
digital transformation-  
**MACHINE VISION SOLUTIONS**



*Fruitful Solutions specializes in digital transformation for factories by utilizing IoT and Machine Vision Solutions. These innovations help smart factories reduce operational costs, enhance productivity, and enable remote monitoring of quality, safety, and efficiency.*

*It also offers a product called "**FreshSort**": a Fresh Food Sorting Machine that helps fresh food producers and packers automate the post-harvest process, minimizing value risks, and reducing waste in fresh food value chains.*



<https://fruitful.solutions/>  
[info@fruitful.solutions](mailto:info@fruitful.solutions)

# VoltaGaz

Algeria

<https://voltagaz.com/>



RENEWABLE ENERGY, ENERGY  
EFFICIENCY And WASTE TO  
ENERGY ALGERIA

Year of establishment 2022

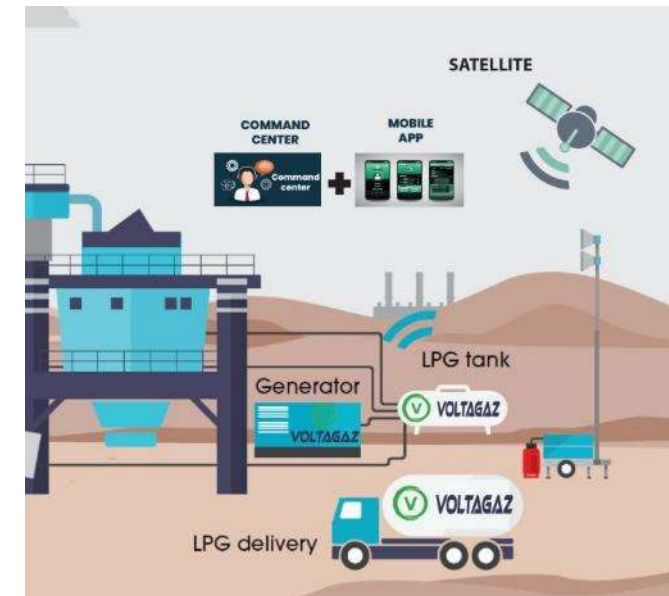


ENERGY FOR ALL

**VOLTAGAZ**  
Nomad Energy

VoltaGaz provides **innovative sustainable energy solutions** aimed at replacing diesel and gasoline engines with cleaner alternatives. Our offerings include gas generators, pumps, and tanks, designed for various industrial and agricultural applications, with power outputs ranging from 5 kVA to 3000 kVA.

Through our app, VoltaGaz APP, clients can manage gas refueling, request quotes, and schedule maintenance efficiently. Our dedicated team focuses on delivering practical and eco-friendly solutions in renewable energy technology and operational management.



**START UP 10** A JOURNEY  
IN 10 MEDAFRICAN  
COUNTRIES FOR  
ECO-INNOVATIONS







Jordan **ADADK**

Year of establishment 2022

*Adadk revolutionizes water management with smart technologies, using wireless sensors and augmented reality to detect leaks and monitor water quality. The technology allows for precise leak localization, enhancing water access and efficiency globally.*

Adadk developed a system based on wireless sensors and an augmented reality (AR) network designed to detect all types of water leaks and contaminations earlier, with the help of autonomous learning (ML) algorithms, allowing for the precise indoor and outdoor location of water problems in order to increase clean water access, decrease water losses and increase crop yields for the millions of people living in rural and urban areas

[startup10medafrica.com](https://startup10medafrica.com)  
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[adadk.tech](https://adadk.tech)





## Tunisia **Thagamuta agro**

Year of establishment 2021

*Produce a wide range of both authentic and innovative products Integration of small farmers into the fairtrade system*

# THAGAMUTA

COOL NATURAL

*Recently they won an innovation prize for its garlic powder*

*Thagamuta Agro (named after the Berber word for “fertile soil”) is a small, woman-owned agribusiness company that produces olive oil, honey, harissa (hot sauce), and other traditional spreads. The 100% Tunisian-owned company is based in the underserved region of Sidi Bouzid, which is known for its agricultural production.*

*The company's vision is to provide local farmers, who often sell their agricultural produce in bulk at low prices, with a way to add value to their produce (peppers, tomatoes, olives, garlic, almonds, etc.). Currently, these farmers must sell at low prices, especially during peak harvest season, because the region lacks processing units that could help them increase their selling price, and they are at the beginning of a long supply chain.*

***Thagamuta Agro fills this gap by producing locally-sourced natural products, with a commitment to fair-trade principles.***



[Contact.thagamuta@gmail.com](mailto:Contact.thagamuta@gmail.com)





Lebanon Year of establishment 2022



*Beelal Honey is a family-owned business that has a unique history with honey. **Honey powder** that requires no vacuum sealing is the innovative product*

Beelal Business specializes in premium bee products, offering a diverse range of honey-related innovations. Its products include high-quality oak honey with certified authenticity, a unique beeswax blend with nuts and pollen, highly sought-after Kona queen bees for advanced beekeeping, a health-boosting mix of royal jelly and honey, and natural pollen grains as a dietary supplement.

The company also provides beekeeping training, targeting passionate individuals and students, aiming to spread awareness and develop skills in the field of apiculture. Beelal dedicates a significant part of its efforts to new research, focusing on developing **innovative products like honey powder** using modern technologies. The company blends traditional beekeeping with modern innovations to deliver exceptional quality and value, catering to specialized markets and health-conscious consumers



<https://www.beelalhoney.com/>





CIHEAM  
BARI



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