GLOBAL PROBLEMS

| POPULATION GROWTH | CLIMATE CHANGE | NATURAL RESOURCES | FOOD WASTE |

2 Billion People
Suffer micronutrient deficiencies

25% of all farmlands are already rated as highly degraded.
Rise in frequency of droughts and floods, all of which tend to reduce crop yields.

Between 33% – 50% of all food produced globally is never eaten.

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PROBLEMS IN AGRICULTURE SECTOR IN TURKEY

High average age of farmers

Climate change and inefficient cultural practices

Efficiency problems of agricultural inputs

Foreign dependency in energy, fertilizers and pesticides

Lack of usage of modern techniques

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WHAT IS
IZMIR AGRICULTURAL
TECHNOLOGY CENTER?

ITTM is the open innovation environment where **information technologies in agriculture** based technologies can be produced, tested and developed on real users and products in a real life environment.

AGRICULTURE IN IZMIR

Agricultural Area: 3.3 Million Decare

# of Agricultural Enterprises: 155k

Agricultural Production Value: 18 Billion TL

Agriculture Based Export: 3.2 Billion $

Agricultural Population: ~13 %

What are the advantages of ITTM being in Izmir?

Agricultural Potential	Focus of Science	Population	Open Interface	Development Policies
High potential of agriculture and agro-industry	Universities and Technoparks	3rd biggest province in Turkey	Port city, easy transportation, attractive for entrepreneurs and startups	Compliance with sustainable development policies

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COLLABORATION OPPORTUNITIES

Agriculture Based Specialized Organized Industrial Zones

- Dikili (Greenhousing)
- Bayındır (Cut flowers)
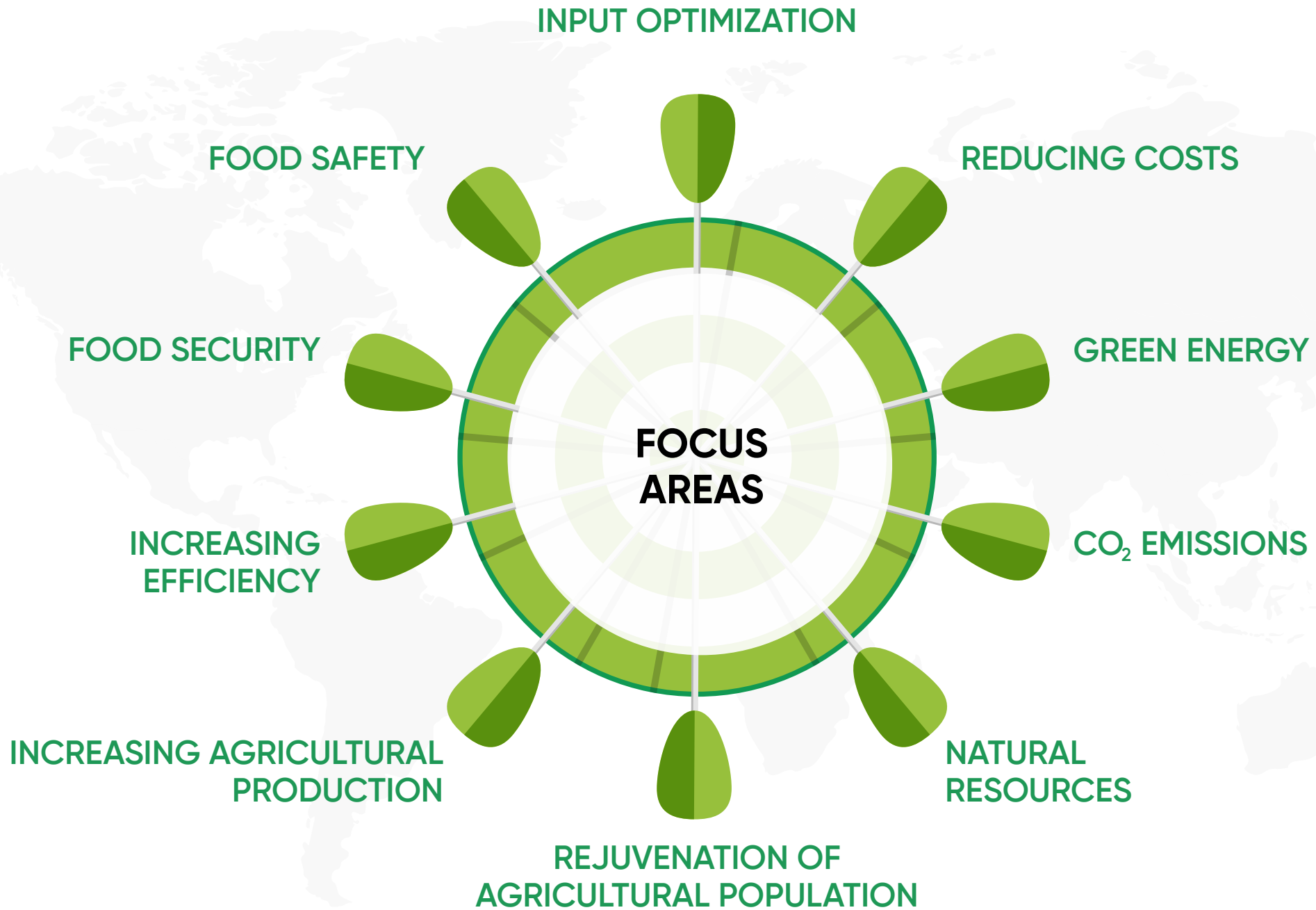- Kınık (Medicinal and Aromatic Plants)

GOALS

Bringing sufficient research and innovation infrastructure to the ecosystem

Increasing the number of competent human resources in agricultural information technologies

Supporting the commercialization of agricultural technology research

Facilitating access to finance for agricultural entrepreneurs

Increasing the attractiveness of the agricultural sector for young people

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INPUT OPTIMIZATION

REDUCING COSTS

FOOD SAFETY

GREEN ENERGY

FOOD SECURITY

CO_2 EMISSIONS

FOCUS AREAS

INCREASING EFFICIENCY

NATURAL RESOURCES

INCREASING AGRICULTURAL PRODUCTION

REJUVENATION OF AGRICULTURAL POPULATION

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WORKING MODEL

Living Lab

Living Lab is a research concept.

Living lab is a user-centered, open innovation ecosystem that often operates in a regional context, integrating simultaneous research and innovation processes in a public - user - private sector - knowledge organizations partnership.
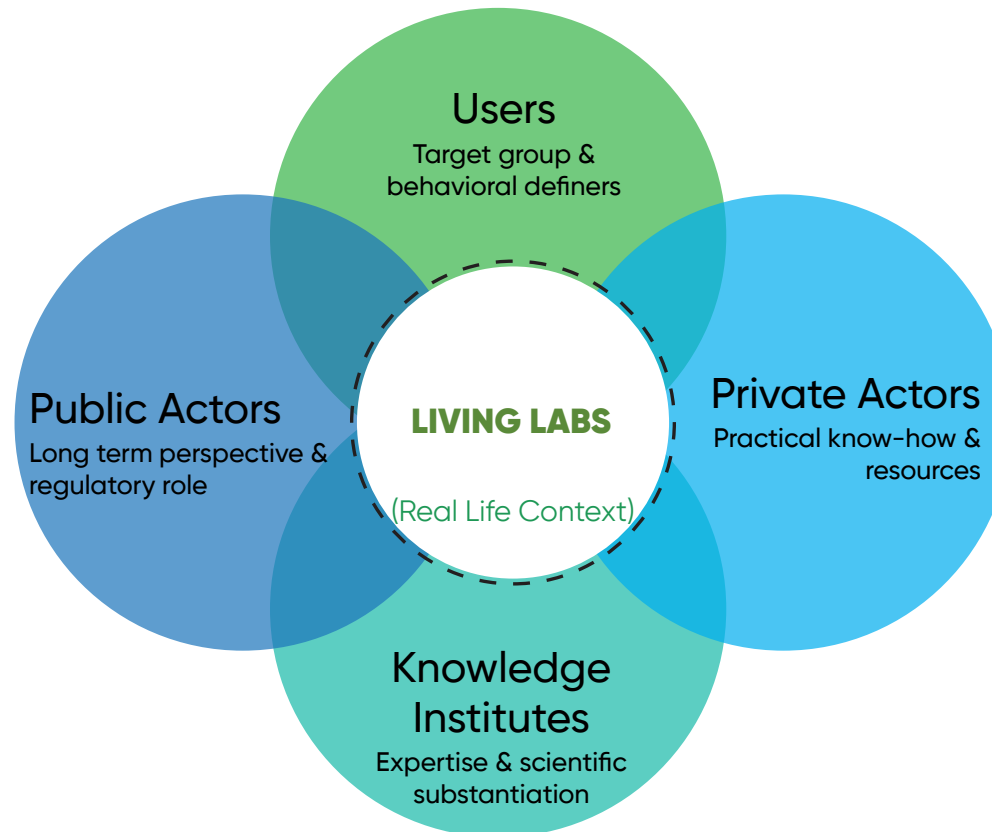
It is an experience center where the outputs of research and development activities can be tested and applied in real life environments and with real users.

Users
Target group & behavioral definers

Public Actors
Long term perspective & regulatory role

LIVING LABS

(Real Life Context)

Private Actors
Practical know-how & resources

Knowledge Institutes
Expertise & scientific substantiation

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STAKEHOLDERS

Chambers / Commodity Exchanges, Unions, Associations, Non-Governmental Organizations
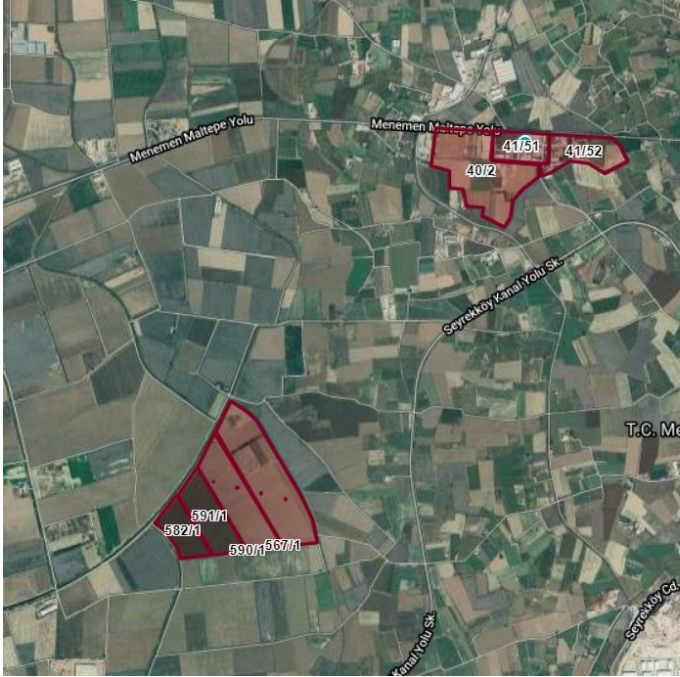
Producers, Private Companies, Producer Associations, Cooperatives

Universities, Institutes and Research Centers

Public Institutions and Organizations, Municipalities, Technoparks

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TARGET GROUPS

- Technology Companies
- Agricultural Machinery Manufacturers
- Universities and Academics
- Agricultural Producers and Operators
- Entrepreneurs

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APPLICATION AREAS (MENEMEN)

Republic of Turkey Ministry of Agriculture and Forestry

International Agricultural Research and Training Center

- Entrepreneur Offices
- Data Acquisition Lab
- Data Analysis Lab
- Prototyping Lab
- Monitoring in Cultivated Lands
- Meeting Rooms

OFFICE SPACES (KONAK - MENEMEN)

MENEMEN
UTAEM

KONAK

City Center

•Management Offices
•Meeting Room

FIELDS OF TECHNOLOGY
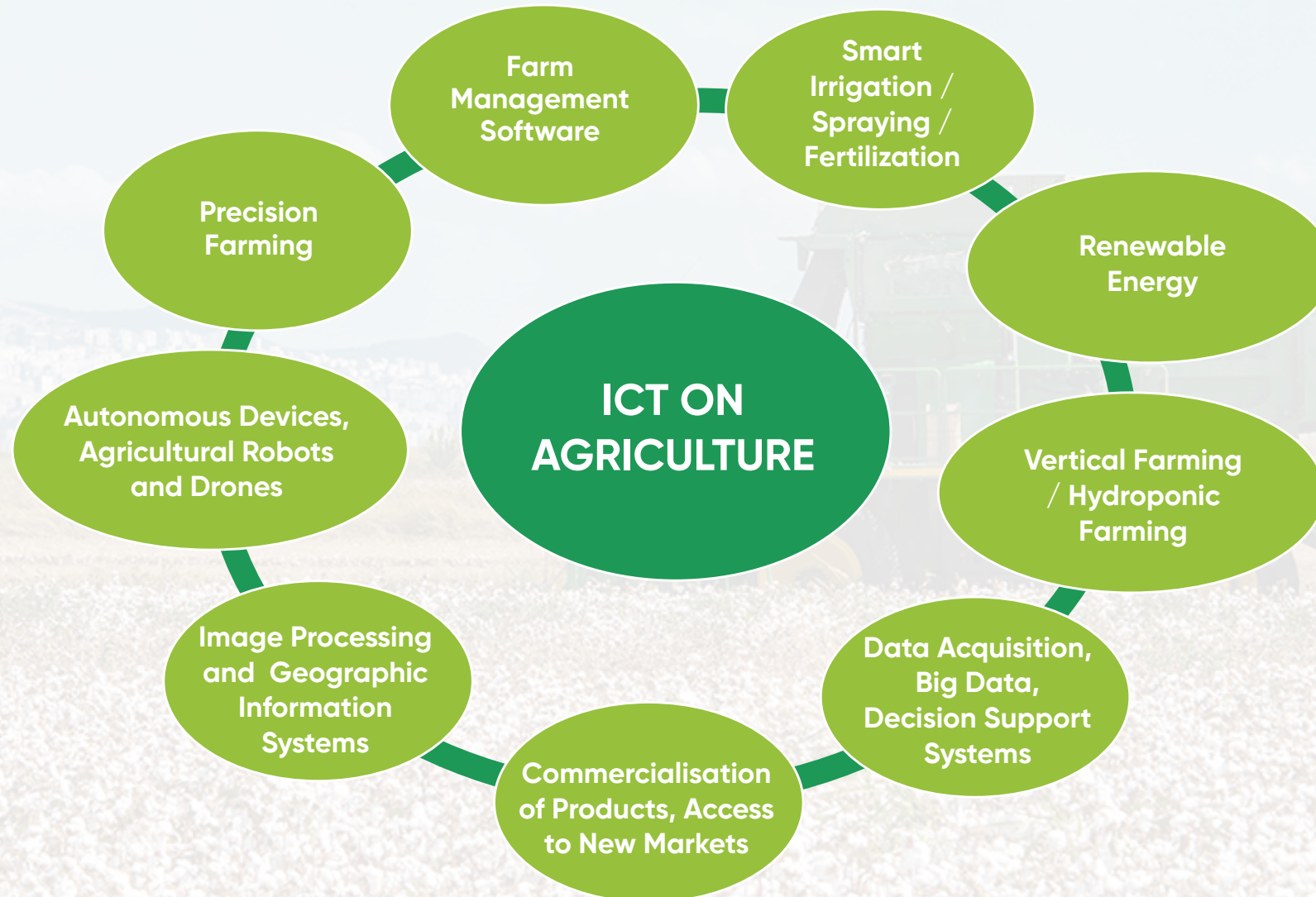
- Farm Management Software
- Smart Irrigation / Spraying / Fertilization
- Precision Farming
- Renewable Energy
- Autonomous Devices, Agricultural Robots and Drones
- Vertical Farming / Hydroponic Farming
- **ICT ON AGRICULTURE**
- Image Processing and Geographic Information Systems
- Data Acquisition, Big Data, Decision Support Systems
- Commercialisation of Products, Access to New Markets
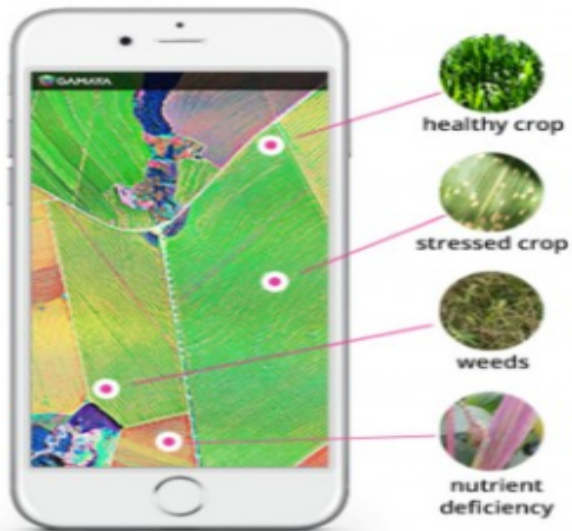
Hyper/Multi Spectral Imaging

Precision farming applications such as detection of plant diseases and pests, yield estimation etc. with special (hyper – multi spectral) cameras that can collect data at spectrums invisible to the human eye

A — Bare ground
B — Dry grass
C — Fresh plants (various leaves)
D — Dry wood (tree wood, fence)

healthy crop

stressed crop

weeds

nutrient deficiency
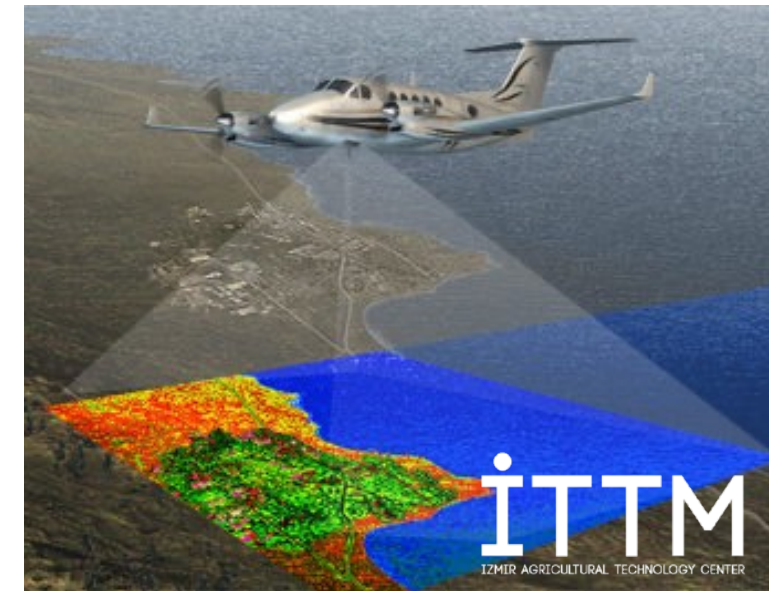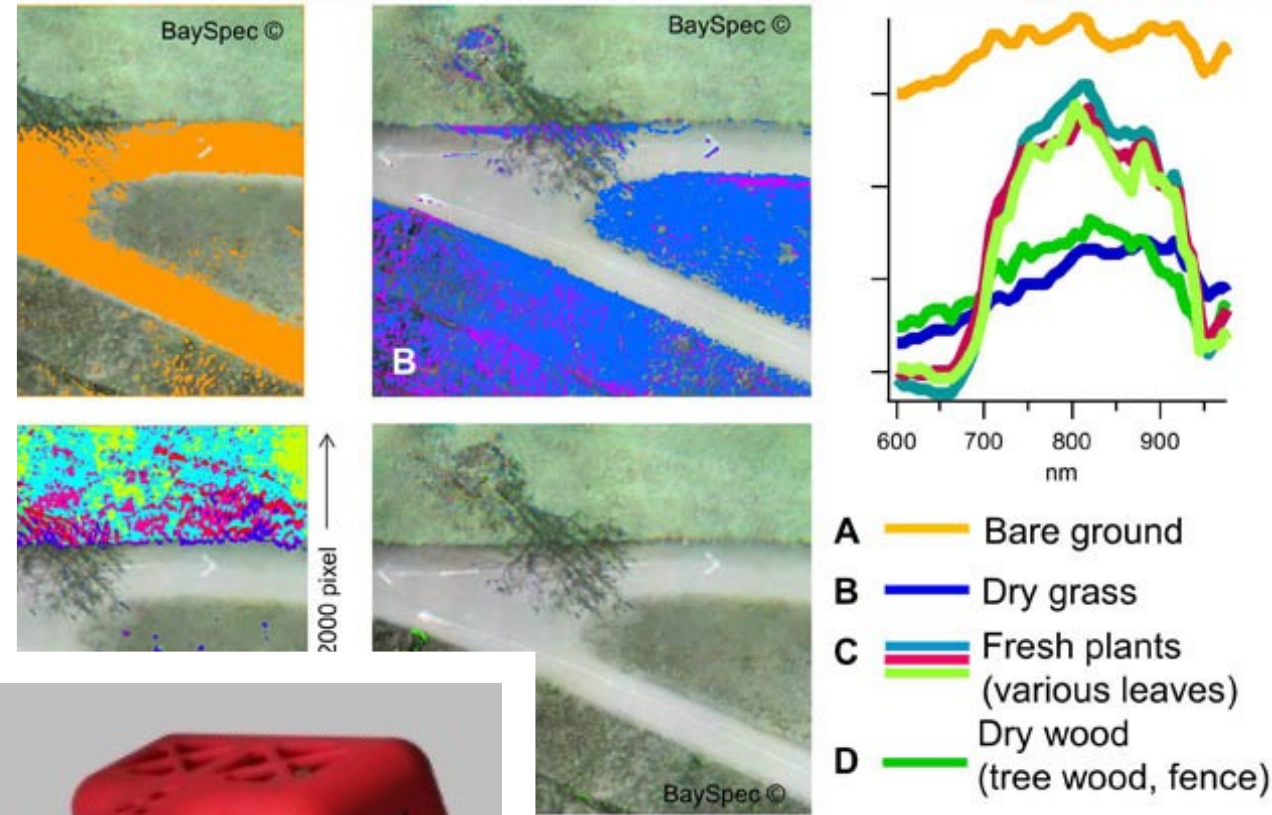
Drone

Field monitoring, husbandry monitoring, plant disease detection and input spraying

Autonomous Devices

With the operation of agricultural machinery (tractors, harvesters, etc.) autonomously and with GPS data, increased productivity and precision, cost, pesticide, seed and chemical reduction, more effective and efficient harvesting.

PROJECT PARTNERS & PARTNERSHIPS

Republic of Turkey Ministry of Agriculture and Forestry

Izmir Institute of Technology

Yasar University

Izmir Chamber of Commerce

Aegean Region Chamber of Industry

Aegean Exporters' Association

Chamber of Shipping Izmir Branch

İzmir Union of Chambers of Merchants and Craftsmen

Ege University

BUSINESS PARTNERS

TECHNOLOGY PARTNERS