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ISTANBUL DEVELOPMENT AGENCY

# ISTANBUL PROJECT ACADEMY

İTÜ NOVA TEKNOLOJİ TRANSFER OFİSİ

TTO Boğaziçi Üniversitesi Teknoloji Transfer Ofisi A.Ş.

İSTANBULTTO TEKNOLOJİ TRANSFER OFİSİ

KOÇ ÜNİVERSİTESİ

MİTTO MARMARA ÜNİVERSİTESİ İNOVASYON VE TEKNOLOJİ TRANSFER UYGULAMA VE ARAŞTIRMA MERKEZİ

YTÜ YILDIZ TEKNOPARK

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# Horizon Europe Cluster 6:

## Food, Bioeconomy, Natural Resources, Agriculture and Environment Brokerage Event

**Project Idea / Field of Expertise :**

# PRECISION AGRICULTURE

**Organisation Name:**

## Faculty of Engineering

### Czech University of Life Sciences Prague (CZU)

**Addressed Topic(s) & Call(s):**

**HORIZON-CL6-2023-CLIMATE-01-7:** Sustainable production of renewable energy at farm-level
**HORIZON-CL6-2023-CLIMATE-01-4**: Demonstration network on climate-smart farming – linking research stations
**HORIZON-CL6-2023-CircBio-01-12**: Sustainable production of wood and non-wood products in small forest properties and development of new forest-based value chains

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# Faculty of Engineering (CZU)

- part of the CZU, public; established in 1952; over 8,000 graduates; 10 departments

**Our expertise – Precision agriculture**

- **Agricultural engineering** - robotics, remote sensing, crop and soil status
- **Electrical engineering** - PV panels, sensing systems, IoT, simulation, digital twins
- **Mechanics** - constructions e.g. for PV
- **Production technologies** - operational characteristics, production economics, circular economy
- **Prototype laboratory** - design, construction and operation of drones and robots


**Experience in EU-funded projects**

- over 6 mil. EUR from national and international funding programmes, e.g.:
- **H2020:** **CARES** (remote sensing for monitoring pollutant emissions and improving city air quality)
- **HE:** **LENS** (monitor noise and nanoparticle emissions of two-wheelers)
  **GUARDIANS** (development and deployment of digital solutions for farms)
- **ERASMUS+:** **NICOPA** (Modernize curricula in precision agriculture using new technologies: GIS, Big Data, Remote Sensing)

(more info Faculty of Engineering, CULS Prague (czu.cz)

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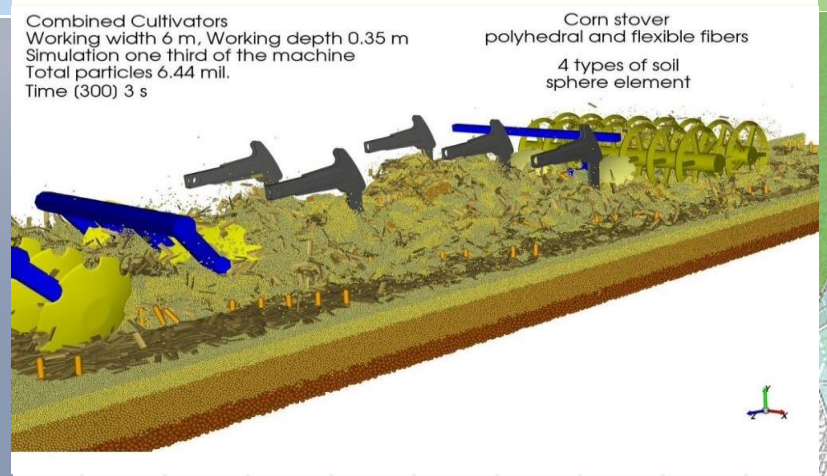
# Our expertise

## AGRICULTURAL FLYING AND LAND DRONES FOR MULTIPURPOSE WORK

- state-of the-art technology
- fully autonomous
- user-friendly operation;
- modern composite designs universal work unit
- international competitions awards

## DIGITAL TWIN CONCEPT IN AGRI-FOOD SECTOR AND SMART FARMING

- FEM and DEM method application in agriculture and soil processing
- fertilizing and seeding processes simulation
- abrasive wear analysis
- worn surface comparison to the actual shape




## IOT INTEGRATION OF AGRICULTURAL PRODUCTION PROCESSES POWERED BY AGRIVOLTAICS

- PV powered island systems for orchards, vineyards, horticulture
- autonomous operation through IoT sensors and controllers,
- water management and irrigation,
- field robots with docking, remote sensing

# Contact details

| Contact person | |
|---|---|
| Organisation | Faculty of Engineering, Czech University of Life Sciences Prague |
| Address | Kamýcká 129, 16500 Praha – Suchdol, Czech Republic |
| Phone | +420 605 294 906 |
| E-mail | ruzickova@tf.czu.cz; huguet@tf.czu.cz |
| B2Match profile | Horizon Europe Cluster 6 Online Brokerage Event \| Participants (b2match.io) – Drones and Robots<br>Horizon Europe Cluster 6 Online Brokerage Event (b2match.io) – Agrivoltaics<br>Horizon Europe Cluster 6 Online Brokerage Event \| Participants (b2match.io) – Digital Twins |
| LinkedIn/Twitter | https://www.linkedin.com/school/15137041<br>TF_CZU (@CzuTf) / Twitter |

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# THANK YOU...