

The Israel Lithuania Technology Hub (ILTH)

A platform to promote economic growth and technological innovation in Israel and Lithuania, by creating strong partnerships between the two economies.



Professional Profile



- 30 years in Sales (Amdocs, Digital, Formula)
- 22 years with Multinational/Multicultural projects
(N. America, Asia, S. America, Europe)
- 25 years with Partners (IBM, HP, EMC, Oracle)
- 25 years in Telco industry (T-Mobile, AT&T, VF, Cellcom, SingTel Group)
- 45 years in the Israeli Defence Forces (Res. Lieutenant Colonel)



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The Israel Export Institute



*The Israel Export &
International Cooperation Institute*

Israel - world leader in Unmanned Aerial Systems Export



- World's largest exporter of UASs in terms of the number of platforms/systems sold in the last decade.
- More than 100 platforms sold to more than 40 countries.
- Israeli companies provide 41% of UAS's global export between 2001 - 2011.
- 2005 to 2012 - \$4.62 billion worth exporting of UAS, related products and services.

Leading Israeli UAS Manufacturers



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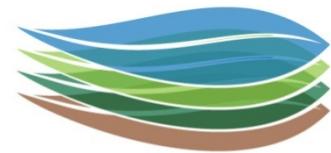
- IAI - Heron, Bird Eye, Mosquito, Ghost
- Elbit Systems - Hermes, Skylark
- Rafael - Protector
- Aeronautics - Dominator, Picador, Orbiter
- Innocon - Falcon, ASIS
- Bluebird - MicroB, Boomerang
- Top Vision – Casper, TAS (Tactical Aerostat System)
- Ginus - Guardium
- Uvision- Blue Horizon, Blade Arrow



Israeli UAS Industry



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Sensilize
sense.analyze.realize



SERAPHIM Optronics
Persistent Covert Surveillance



‘Agriculture is a very sophisticated industry and farmers are very data hungry — and they have not been well served, historically, in providing that data. They need on-demand data, they need it very high resolution and they need it often.’

‘Meet the New Drone That Could Be a Farmer’s Best Friend’ , Rachel Rohr, Modern Farmer, January 21, 2014

Future of Farming ?????



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UAS Business perspectives



- At an average of \$2 per acre for a walking visual inspection or an aerial survey to take an image of crop fields.
- The return on investment is met quickly.
- UAS can reduce farmers operating costs and improve their crop yields by giving farmers timely information they need for quick management intervention.
- Operations are performed by integration companies.



How is UAS used in agriculture?



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Crop monitoring (nutrient, water, pest)

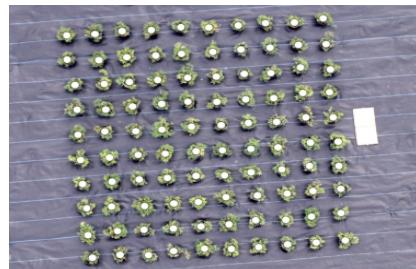


Chemical applications



Land & building management

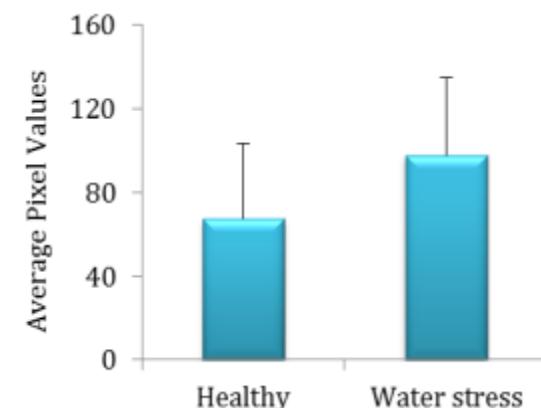
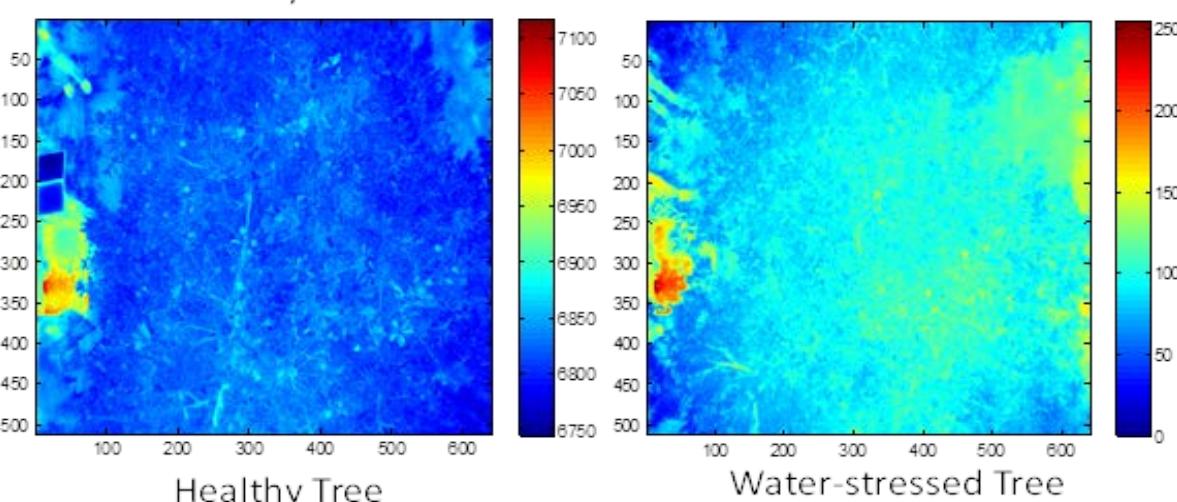
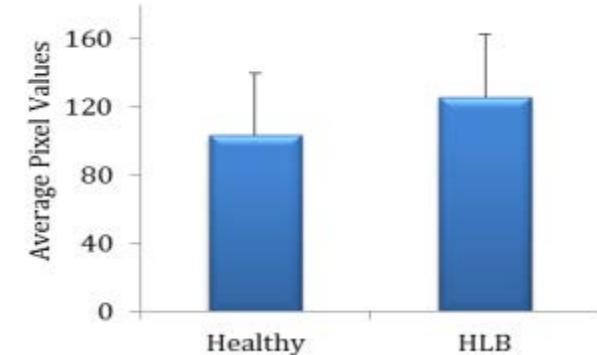
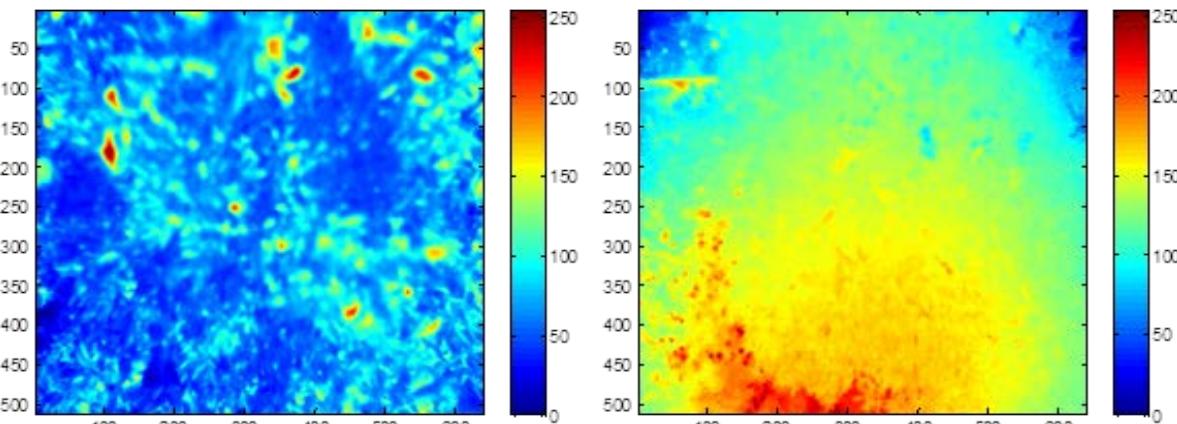
Crop & livestock inventory management



Citrus disease/stress detection



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Thermal Camera

What UAS Options are Available



DT-18 38K, FR



eBee Ag 25K, SW



Lancaster 25K, US



AgDrone 15K, US



Rapid 14K, US



AGBot 10K, US



X8+ 2K, US



Tal-Q 2K, UK



Additional crucial components



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Trimble offers a complete range of products and solutions for mapping and surveying from Unmanned Aerial Vehicles.



Leica Geosystems, the leading provider of airborne mapping solutions, that can be operated safely in often harsh environmental conditions.



Hover features include an industry news feed, no fly zone maps, and weather data.

Capture App allows you to turn your DJI Phantom into a mapping and measuring tool.

DJI is dedicated to offering everyone a flying camera platform and taking photography to new heights.

Field Extractor automatically selects images from the camera storage card and uploads them to Agribotix servers.

Agribotix cloud-based solution process RGB and/or Near Infrared images on the cloud and merged into a single geo-referenced mosaic

'I certainly don't want 'em flying over my house' Beafore says. But he emphasizes surveillance is not what his UAVs are about. The first uses will probably be agricultural, checking crops for mold or standing water.

"The corn doesn't care," he says.



Frank Beafore, SelectTech Geospatial, 'New York, Texas among test sites for commercial drones, Marketplace, December 12, 2013

Challenges to Widespread Adoption



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Drone crashes into Virginia bull run crowd



A drone crashed into the grandstand at Virginia Motorsports Park during Saturday's Great Bull Run.

By Martin Weil, E-mail the writer ↗

An aerial drone, a pilotless aircraft of the type that has aroused intense public discussion in recent months, crashed Saturday into the stands at a public event in Virginia that has also aroused heated discourse.

Safety

Snapping Tina's Wedding: Paparazzi Turn to Drones

By Martin U. Müller and Andreas Ulrich



This camera drone in Bavaria is used by a television production team.

When Tina Turner got married at her estate in Switzerland over the weekend, she wanted to keep paparazzi away. But photographers used drones and other aircraft to get the exclusives they needed. The battle for pictures is increasingly moving into the airspace.

Privacy

Challenges for UAS use

- Battery life
- Insurance
- Focus on data collection, analysis, and interpretation
- Sensors- Thermal imagery- reliable temperature measurement, uncooled vs. cooled camera
- Software support
- Regulations
- Weather robust





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Now what?





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In the News

Why 2015 is the year agriculture drones take off

(Clay Dillow, Fortune May 18, 2015)

“With the debut of the Federal Aviation Administration’s Section 333 exemption (which permits companies to fly drones commercially on a case-by-case basis) in November that’s poised to change, particularly in the United States. For the first time agriculture drones will legally be able to gather widespread data across an entire growing season, allowing companies to test their business models and technologies together for the first time—and ideally make a profit In the process.

A widely-cited [drone report](#) released by the Association for Unmanned Vehicle Systems International predicts that the legalization of commercial drones will create more than \$80 billion in economic impact (such as revenue, job creation) between 2015 and 2025, and that precision agriculture will provide the biggest piece of that growth.”

New Paradigm



From
Camera

To
Sensor

From
Agriculture

To
Other Applications

From
General Application

To
Customized Solution

From
Qualitative Data

To
Quantitative Information

Advanced Integrated Approach



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Hardware

Robin
EYE

&



Software

Robin
MIND

Robin-Eye Multispectral Sensor



- One of the first commercial application driven multispectral sensors for light UAS.
- High spatial resolution 10cm at 100m above ground.
- Seven narrow bands covering the visible-Near Infra Red regions, enables to apply most vegetation indexes
- An RGB camera.
- Calibrated Sensor- Sun sensor that measures the irradiance allowing for measuring real reflectance.
- Flexibility – size, dimensions, platform.





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Robin-Mind Software

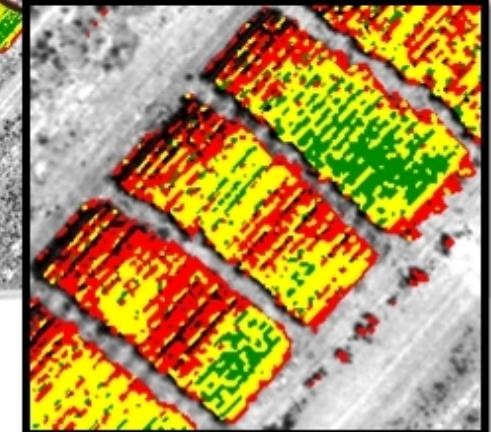
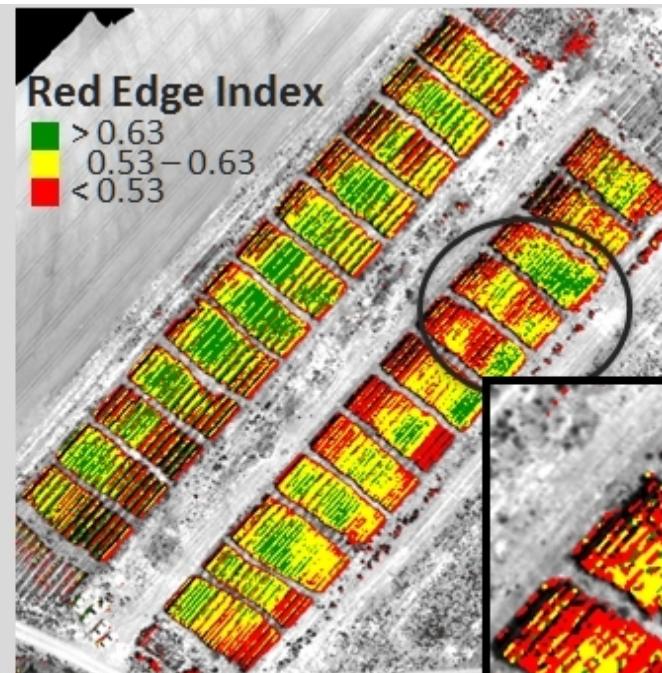
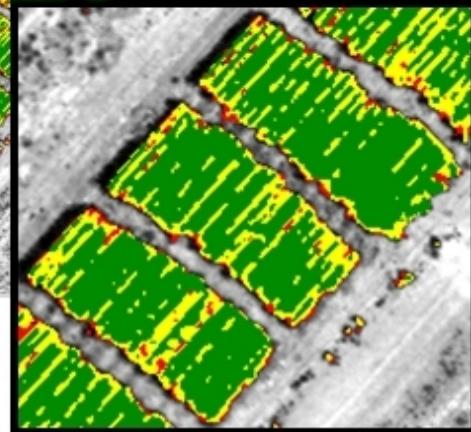
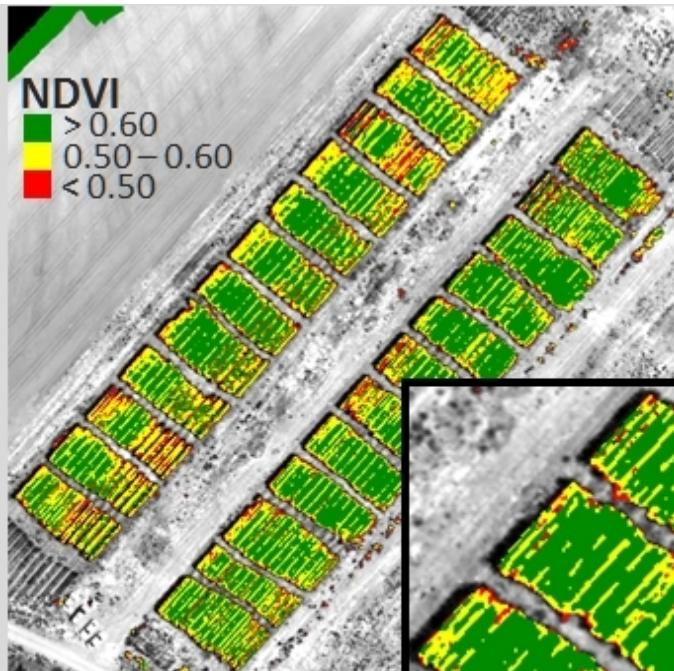
- Transfer precision data into knowledge
- Automated processing flow.
- Sophisticated processing - according to high-end remote sensing principals applying:
 - Remote sensing physics (spectral signatures, atmospheric correction, radiative transfer)
 - Semi-empirical methodologies
 - Agro-physical models.
 - Change detection between images along time.
- Fully integrated with the Robin-Eye sensor.
- UX design – intuitive, simple and user friendly.
- Customized for different types & level of users.
- Connectivity - open to accept “outside” data



Corn Plots – Fertilization Experiment



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New Perspective to Security

skysapience

**Delivering the only mobile tethered hovering
platform in the world**



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HoverMast with triple sensor payload





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Benefits

- Excellent size-to-payload ratio
- Fast deployment and redeployment
- Unlimited operation time
- Suitable for small vehicles
- Fully autonomous-no skilled operator

required

- Fully automated safety system
- Compatible with various payloads
- Cost-effective
- No air control regulations

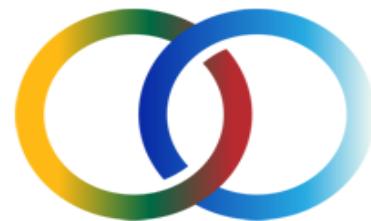


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Keep in Mind



Thank YOU for listening



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