

# Drones in agri-science and agri-insurance: international and Ukrainian experience

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# Adoption of technologies



Images of the autonomous scooter of the 1920's during wartime and gasoline rationing

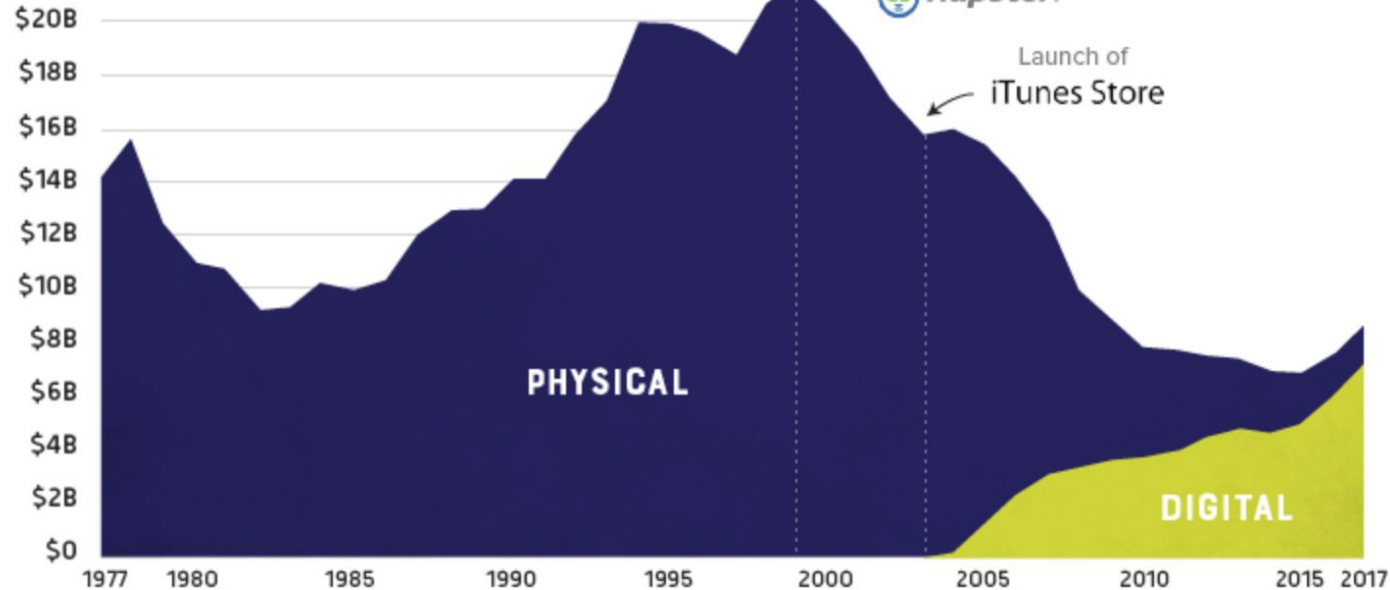
the first patent of an electrical scooter was published in 1895 by inventor Ogden Bolten Jr. of Ohio

The mass production started in earlier 90th 20 century

# From other side

## MUSIC REVENUES

Adjusted for Inflation, 2017 Dollars

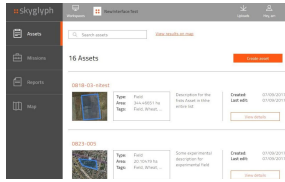


Source: RIAA

business almost  
100% transformed  
von physical to  
digital

# About Skyglyph

## Skyglyph Cloud



## AeroScouter

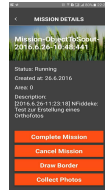


Plan

Collect

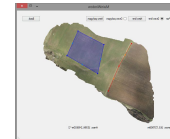
Process

Analyse



## Ground Scouter

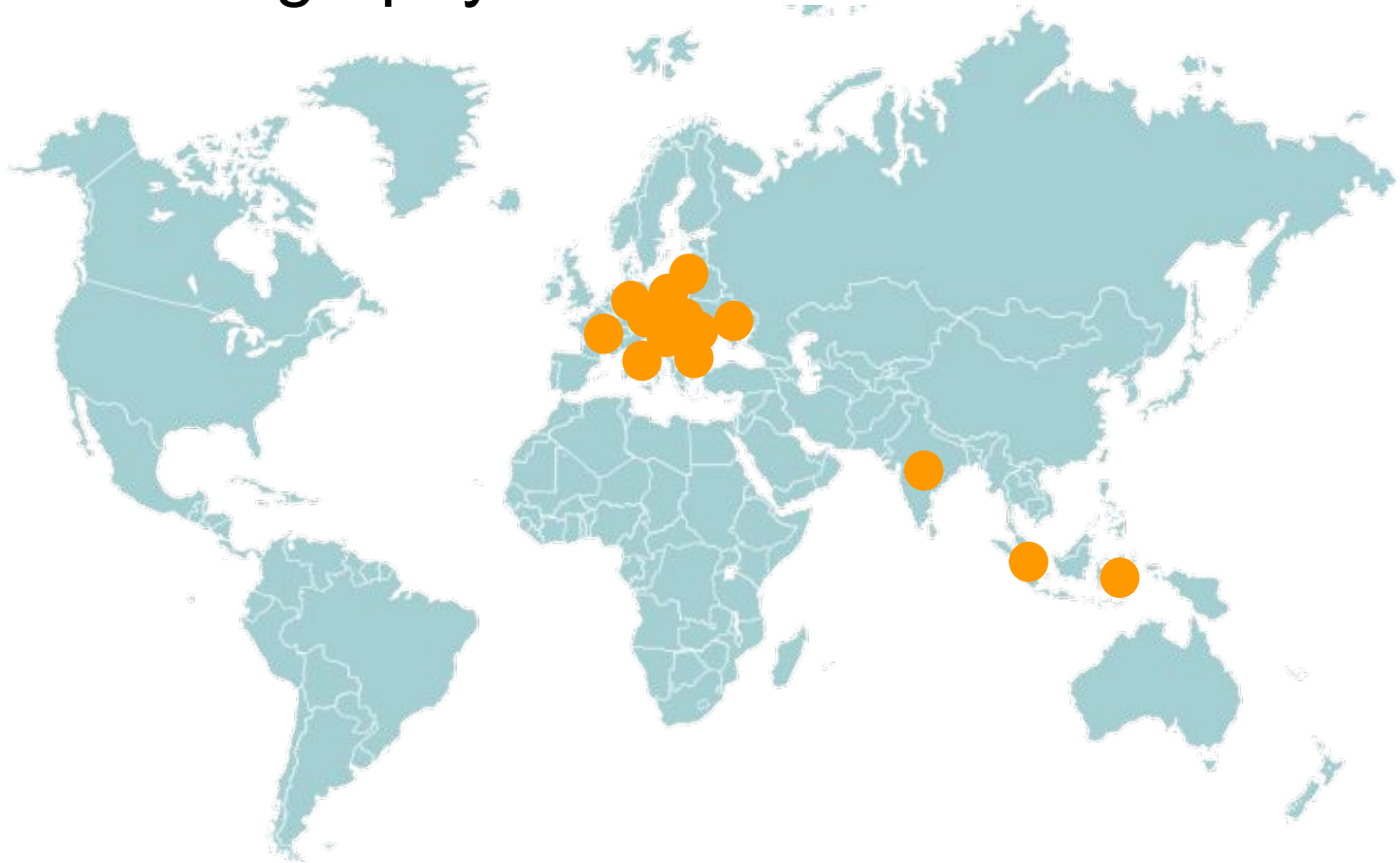
Skyglyph works in 2 areas - agro insurance and agrosience with Aerial Intelligence solution for assets monitoring with help of AI, drones and satellites.



## InField Analyzer



# Business Geography

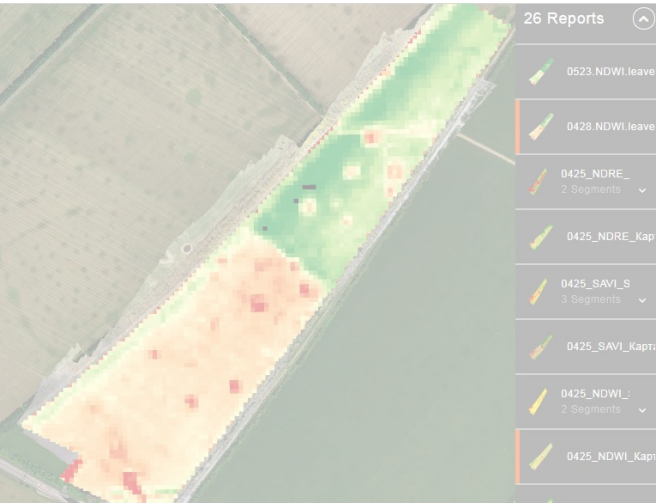


# Agro Insurance



- Crop insurance claim processing is mostly manual, time-consuming and inaccurate
- Skyglyph allows insurance companies to integrate drones and satellites into their business processes more easily.
- Insurers can use Skyglyph with Machine Learning to detect and assess crop and property damages from images, collected by drones, satellites and even smartphones.
- It means an acceleration of claim processing, saving money and avoiding fraud.

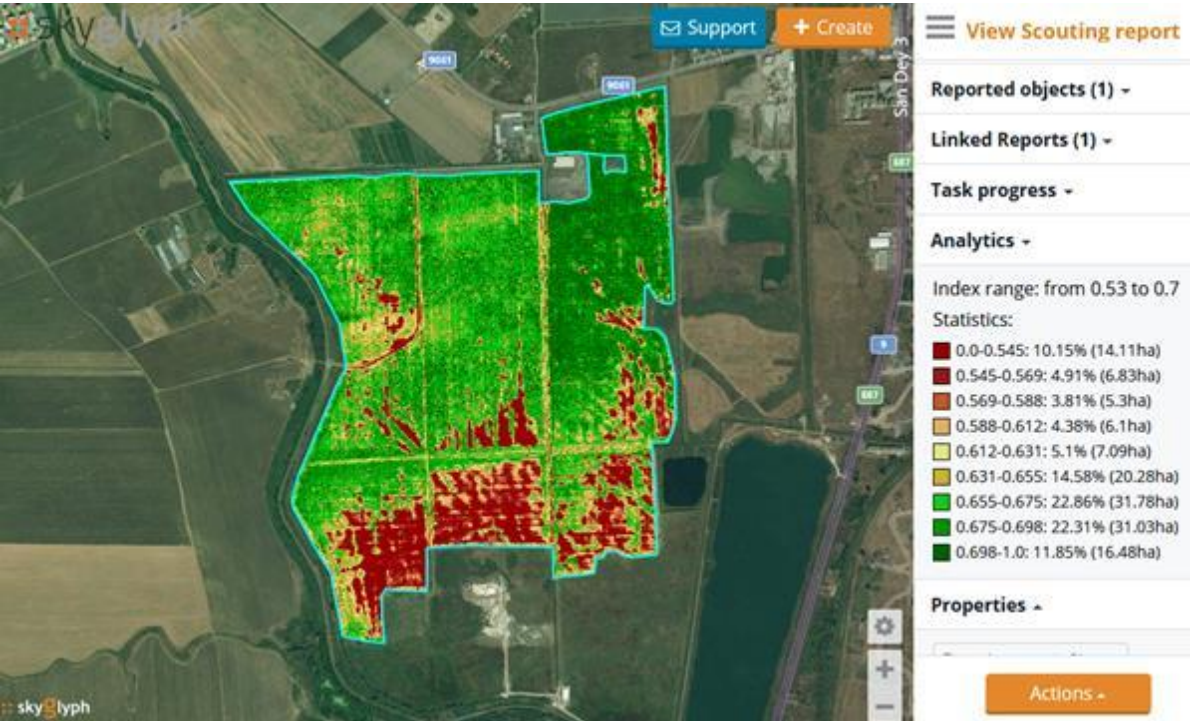
# Agri Science



- The dynamic environment requires from agrochemical companies to respond more quickly and accurately to demands
- Skyglyph allows to collect data from the field much faster and efficiently with drones, satellites, and smartphones
- Helps to analyze collected data and detect diseases, pests, and weeds with Machine Learning technology
- Allows to produce more accurate recommendations



# Business Case #1



An Insurance company ordered an inspection of a 140 h.a. field after a massive flood.

**It was very difficult for a claim adjuster to measure all zones manually and his report shows 40% of damage**

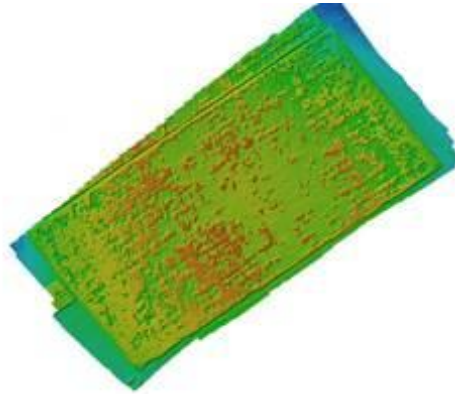
We provided visual and NDVI (Normalized Difference Vegetation Index) orthophotos.

NDVI photo allows to show the health of a crop according to a color scale, where green color means maximal health and red indicates absence of vegetation.

**The system indicated only 26 ha (18%) of the crop was severely damaged (22% or 30ha less).**



## Business Case #2



This is sunflower field after windstorm

We created DEM (Digital Elevation Model) of field, based on drone results

The size of damage is about 60%



# Insurance Experience #1

Our expectations	Actual
Use drones as everyday instrument	Slow adoption to new technologies (HR, local regulations, etc)
Use our technology for whole process	Using drone-based technology only for damages assessment (about 5% of insured fields) or even case-by-case several times in season
Penetration to farmers with value-add services together with insurance companies	Farmers call to insurers to use drones to assessment

# Insurance Experience #2

Our expectations    Actual

Involvement in the business process

Insurance companies expect “magic box” from our technology

Regular process of assessment damage

Insurers are trying to mimic manual style and required tool for processing in the field to assess damage in the field instantly

Proactive approach

Reactive approach

# AgriScience Experience

Our expectations    Actual

Use drones as everyday instrument

Slow adoption to new technologies (HR, local regulations, etc)

Involvement in the business process

Ready to be involved

Regular process of crop assessment

Clients try to establish regular processes

Proactive approach

Proactive approach

# Drones and sensors

- Drones
  - Lack of services
  - Flight duration
  - Reliability of hardware
  - Non unified integration protocols
- Sensors
  - Gap between cost and quality
  - Unification of sensors

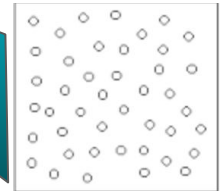


# Convergence of Technologies

- Index-based insurance
- Assess of massive disasters
- Use before and after imagery to assess damage and facilitate claims adjuster visits

- Reimbursement insurance
- Clarification of complex cases
- self-service

- Self-service
- Automatic risk detection
- Risks prediction





Thank you!