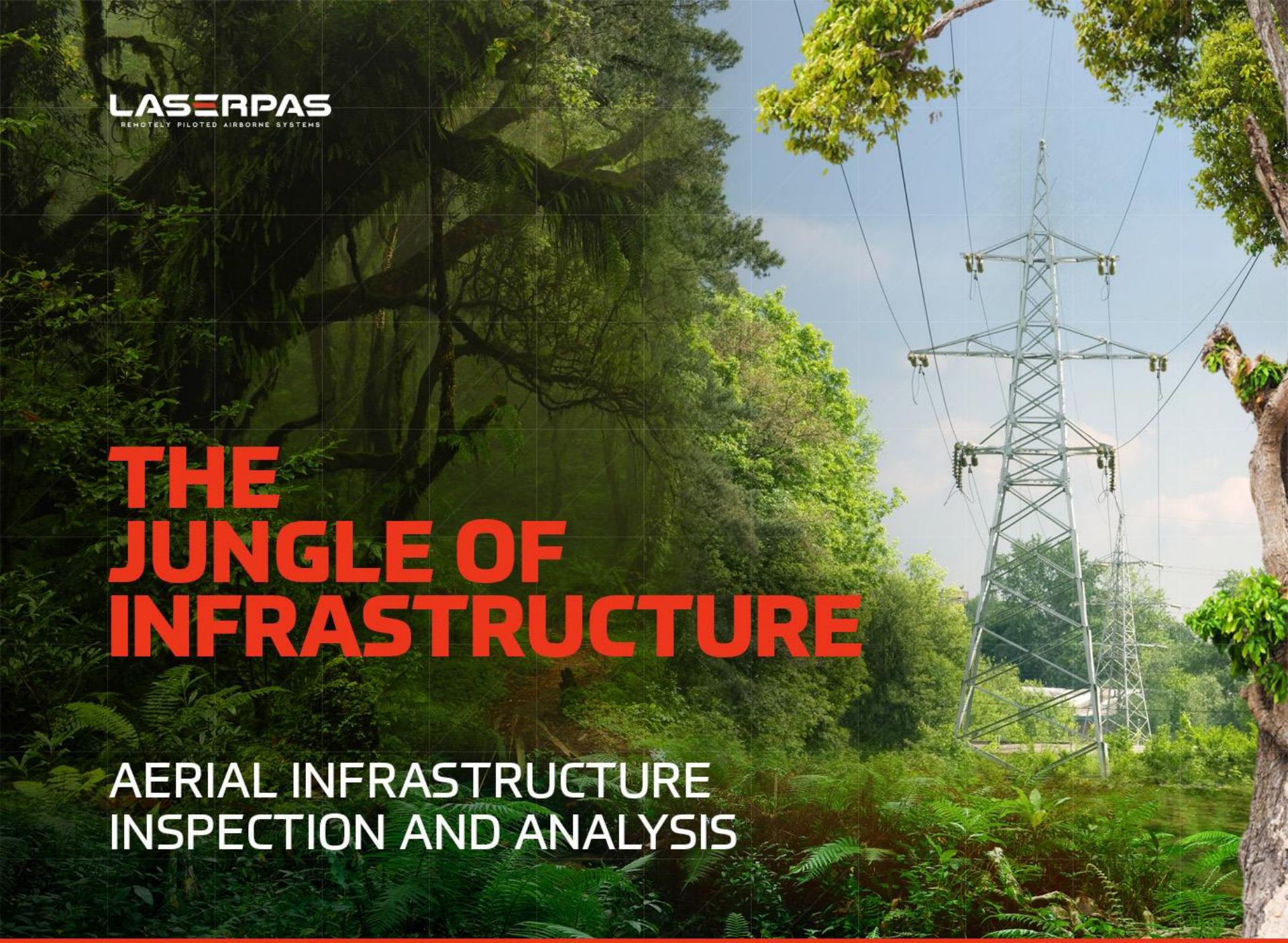
LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS
THE JUNGLE OF INFRASTRUCTURE
AERIAL INFRASTRUCTURE INSPECTION AND ANALYSIS

LASERPAS – another drone company?

DO YOU KNOW THE JUNGLE?

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

PAPER WORLD

Most railroad operators apply time-based approach – assets are checked, renewed and reconstructed on a time-based schedule

vs.

REALITY

However, there are multiple environmental factors influencing the health of the railway line and surrounding assets that cannot be estimated on paper

ABOUT LASERPAS

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

- FIRST INFRASTRUCTURE-FOCUSED UAV OPERATOR IN CENTRAL AND EASTERN EUROPE
- UNIQUE INFRASTRUCTURE SURVEILLANCE SERVICES, DEMANDED BY UTILITIES
- CONCLUDED SALES TO ČEZ, EVN AND OTHER INDUSTRY GIANTS
- NAMED THE 2ND BEST SMART ENERGY START-UP AT ASIAN UTILITY WEEK
- BEYOND VISUAL LINE OF SIGHT (BVLOS) PERMITS IN 5 COUNTRIES
- FIRST UAV FLIGHT SCHOOL IN LITHUANIA

STATE-OF-THE-ART TECHNOLOGY

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

ULTRA-LONG ENDURANCE UAV FLEET

COVERAGE	UP TO 400 KM	SPEED	0 – 100 KM/H
OPERATION	UP TO 5 HOURS	FUEL CONSUMPTION	1,2 L/H*

* ELECTRIC VERSION IS ALSO USED IN SEMI-URBAN ENVIRONMENTS

DO YOU KNOW THE JUNGLE?

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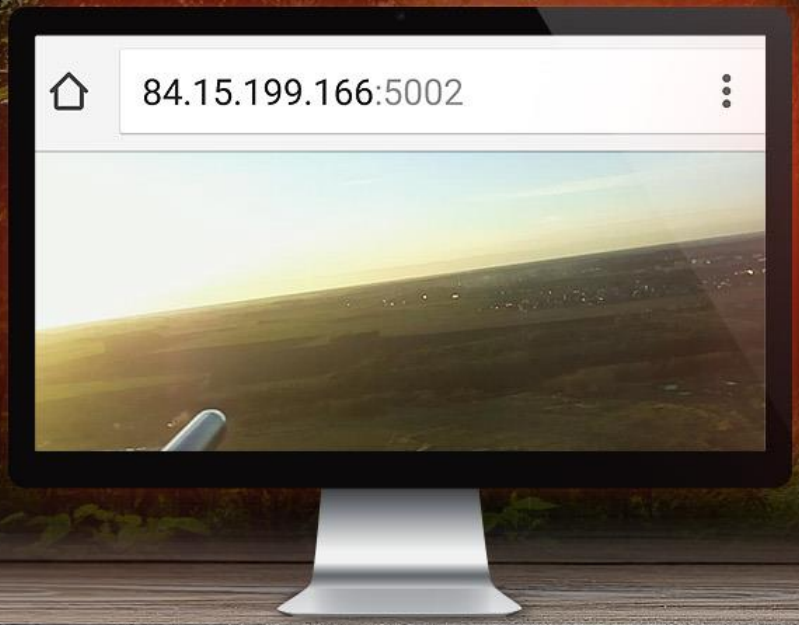
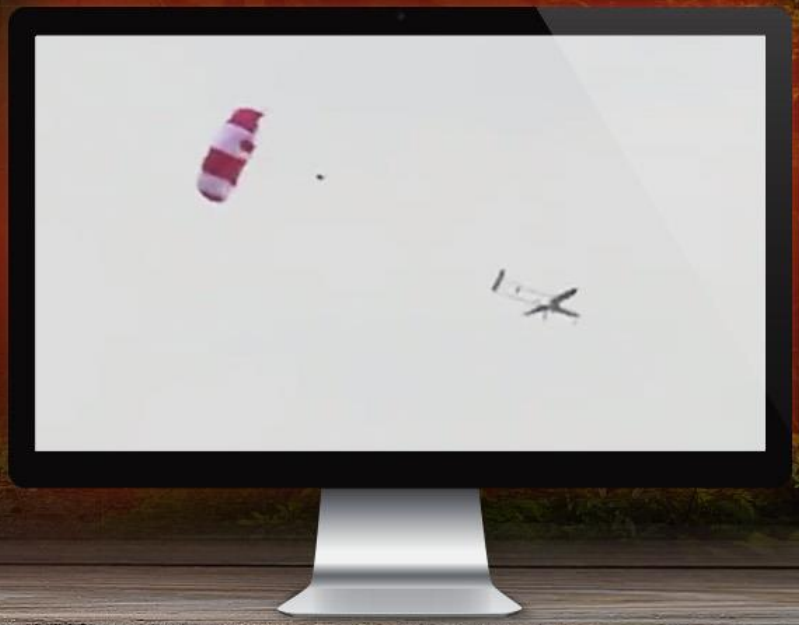
REMOTELY PILOTED AIRBORNE SYSTEMS

IT CAN BE EASIER

- All UAV systems are constantly monitored
- Pilot has a view to the front and full telemetry
- All flights operated by dual pilots
- Planes are equipped with emergency parachutes
- Liability against 3rd party is insured to €10 million

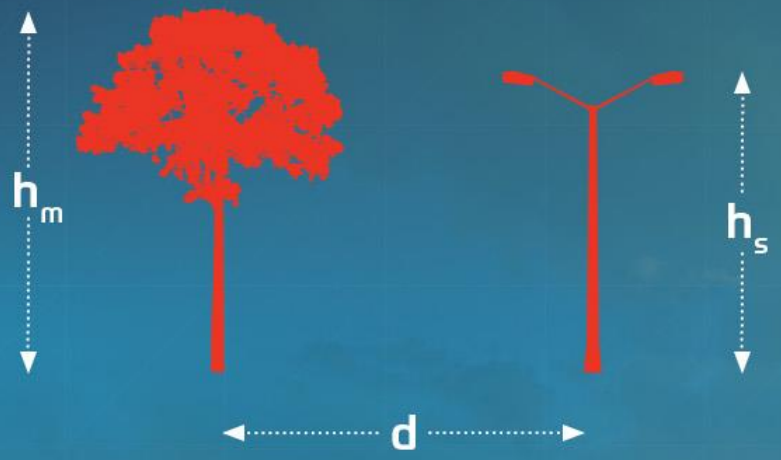




UNIQUE VEGETATION MONITORING

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

LASERPAS TECHNOLOGY ALLOWS SIMULATING FALLING TREES & DETECTING DANGEROUS AREAS



SUSPICIOUS

$$\sqrt{d^2+(h_s - 0{,}05*h_s+f)^2} > h_m \geq \sqrt{d^2+(h_s - 0{,}05*h_s+ f)^2} - s$$

LASERPAS SOLUTIONS ALLOW REDUCING VEGETATION TRIMMING COSTS UP TO 40%

SEE FOR YOURSELF

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

EYE-OPENING LOOK INTO YOUR INFRASTRUCTURE

- [X] pk Balcieriškės
- [X] pk Vievis
- [X] railways
- [X] holdings
- [X] range
- [X] electricity
- [X] plots
- [X] plots of forest land

3D PRECISION RISK ANALYTICS

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REMOTELY PILOTED AIRBORNE SYSTEMS

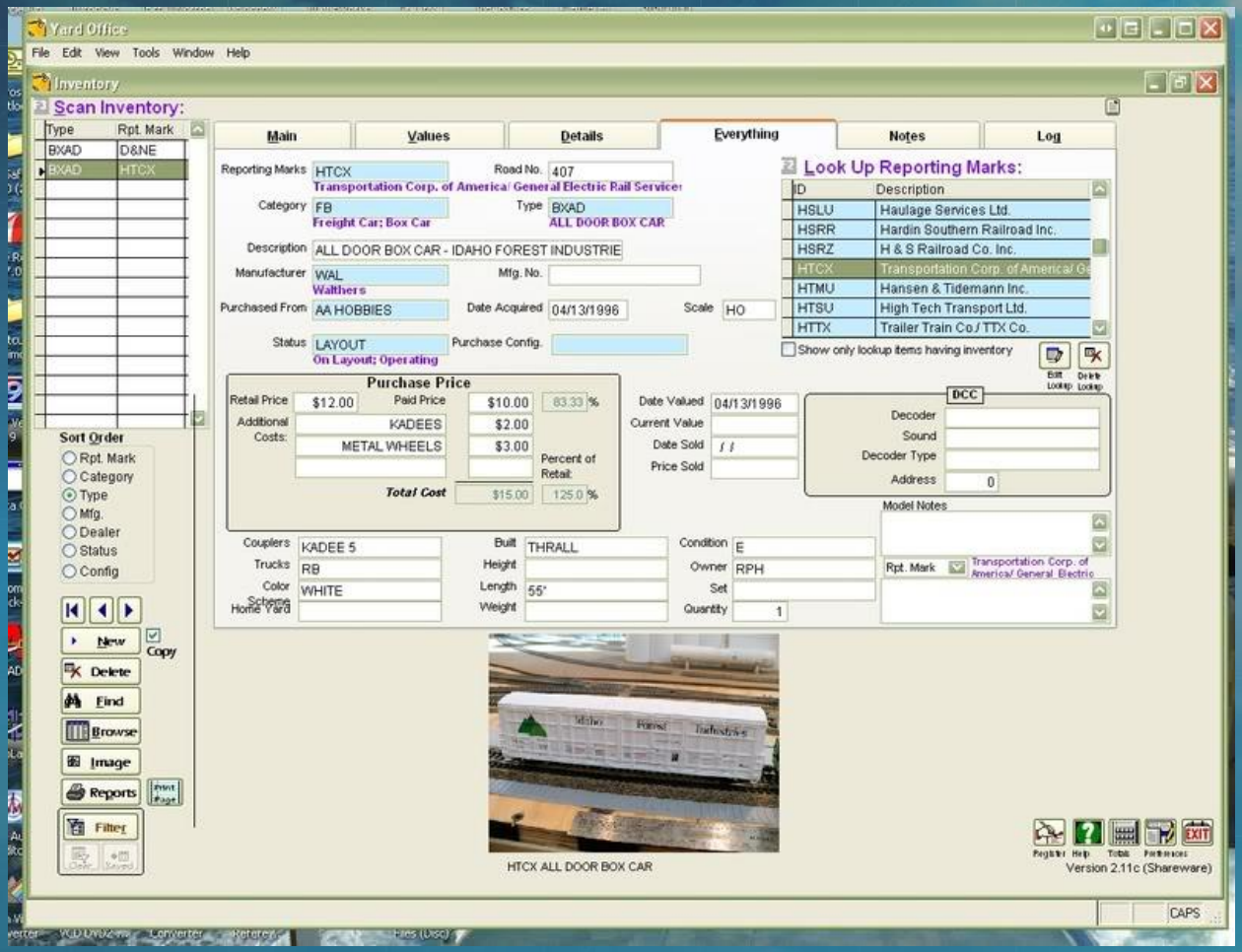
PRECISE 3D MODELS ARE GENERATED FOR DETAILED RISK ANALYSIS

- FLIGHT TRAJECTORY ANALYSIS
- SELECTION OF THE SENSORS
- FLIGHT PLANNING
- DATA COLLECTION
- DATA PROCESSING
- DATA ANALYSIS
- EXPERT EVALUATION

ALL RISK FACTORS, SUCH AS TREES, BUILDINGS AND EROSION ARE MATCHED AGAINST INFRASTRUCTURE WHILE DANGEROUS AREAS ARE MARKED

What does this mean to my infrastructure?

There is a switch



...to this...

ROMANIAN GRID: VEGETATION INSPECTION

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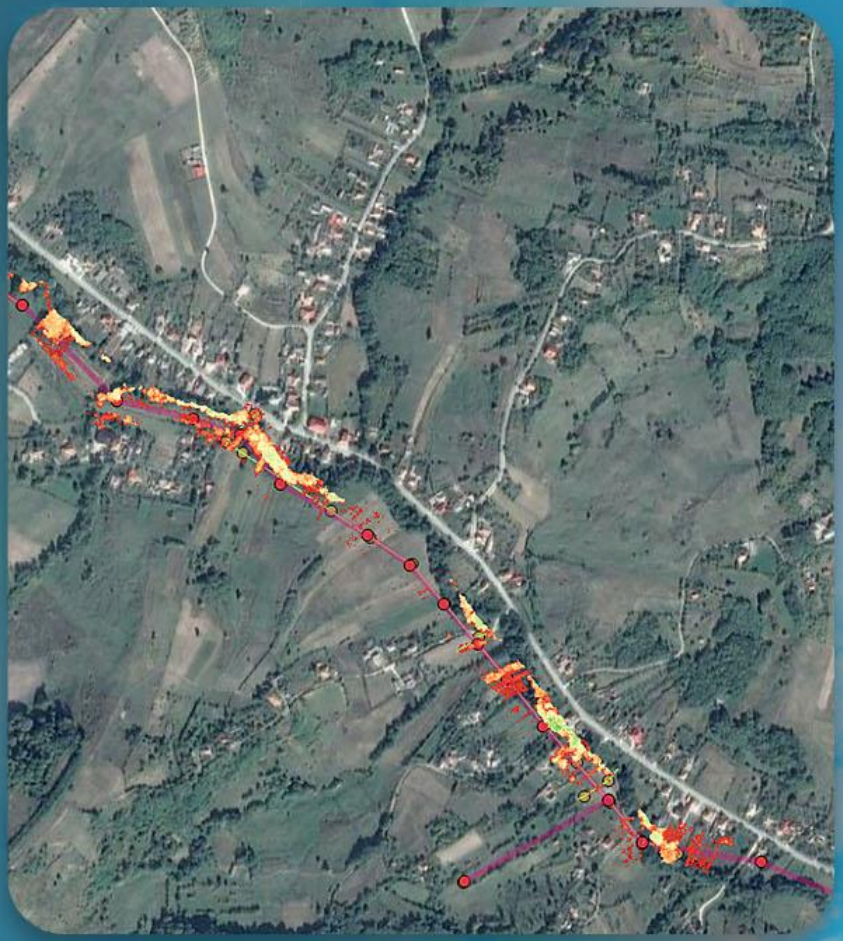
REMOTELY PILOTED AIRBORNE SYSTEMS

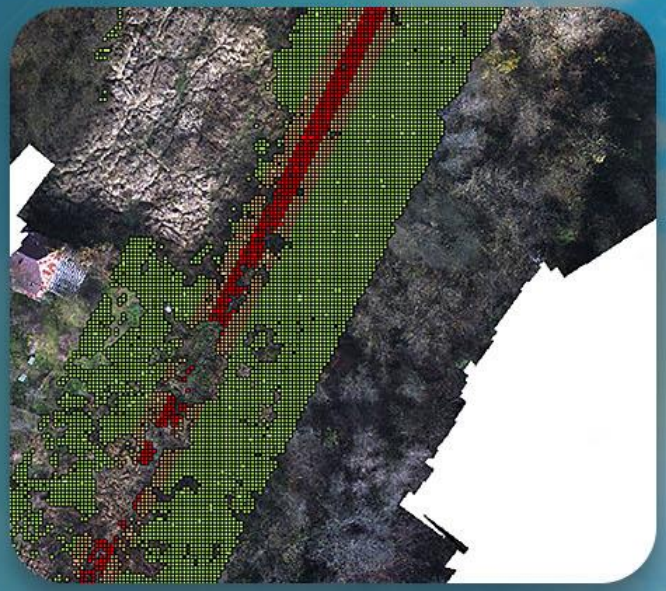
- **6.3% OF TOTAL GROUND AREA IN THE ROW IS SEVERELY AFFECTED BY VEGETATION**

- **OUR EXPERIENCE SHOWS THAT PRECISE VEGETATION DATA ALLOWS UP TO 60% REDUCTION IN NETWORK**



ROMANIAN GRID: VEGETATION INSPECTION

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS



- ALL VEGETATION DATA WAS VECTORIZED AND GIS REFERENCED, ALLOWING THE CUSTOMER TO MAKE DIRECT WORK ORDERS FROM GIS OR .XML TABLES

SERVICE LEVEL OFFERINGS AND BUSINESS CASE

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REMOTELY PILOTED AIRBORNE SYSTEMS

Optical + Lidar + component inspection

WHAT YOU GET

- Dangerous tree and dangerous building location
- Asset location
- Tower geometry and line health analysis
- Line sag and clearance analysis + simulations

COST

- 50 – 70 €/km

BENEFITS

- SAIFI reduction of 0.45-0.75, SAIDI reduction of 70-190min (incl. Force majeure) – line touching is detected as well
- €40 per km saving by reducing need for physical, instrumental and thermal inspection
- €70 per km saving for reduction of precise asset location cost
- Reliable data for vegetation and corridor inspection
- Reliable data for tower and tower component health, incl. Isolators, geometry and more

IS IT WORTH IT?

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

- **PRECISE** ASSET LOCATION
- **IN-DEPTH DATA** ON EXISTING AND POTENTIAL THREATS
- **DECREASED** HR COSTS
- **1% RECLAIMED** REVENUE FROM THEFTS
- **TIMELY** PREVENTIVE ACTIONS
- **40% DECREASE IN** ASSET LOCATION COSTS
- **20% DECREASE** IN MAINTENANCE COSTS
- **25% DECREASE** IN SAIDI/SAIFI

YOU DECIDE

LASERPAS
REMOTELY PILOTED AIRBORNE SYSTEMS

YOUR DEDICATED PROVIDER OF UAV INSPECTION AND MONITORING

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