Reduce vegetation management costs with the HAWK system platform

Vegetation monitoring system

Vegetation management is important for safety and to prevent failures, and requires continuous monitoring of changes.

A good monitoring system is reliable, simple, cost-effective, testable, flexible, map-based and able to manage the whole process.

It is also important to consider voltage levels and integrate the system into existing processes.

Innovative solutions for all voltage levels

We have solutions for all voltage levels. **Satellite sensors** are ideal for high voltage (transmission) and medium voltage distribution lines. **Drone-mounted sensor** - if required - can be used for accurate assessment prior to actual intervention. And our **car-mounted sensors** are excellent for precise and accurate detection of vegetation in populated areas. Photographs are taken of the drone and the car, which can be attached to our map application for a virtual inspection.

Why is vegetation management so important?

Neglected vegetation can cause malfunctions and even life-threatening situations, for example when branches come into contact with power lines.

In dry conditions, the proximity of vegetation to power lines can increase the risk of fire. Unfortunately, this is becoming increasingly common and we have seen the potential consequences of this in recent years.

In addition, overgrown bushes or lianas can obstruct access to network infrastructure, which can significantly hamper the work of installers.
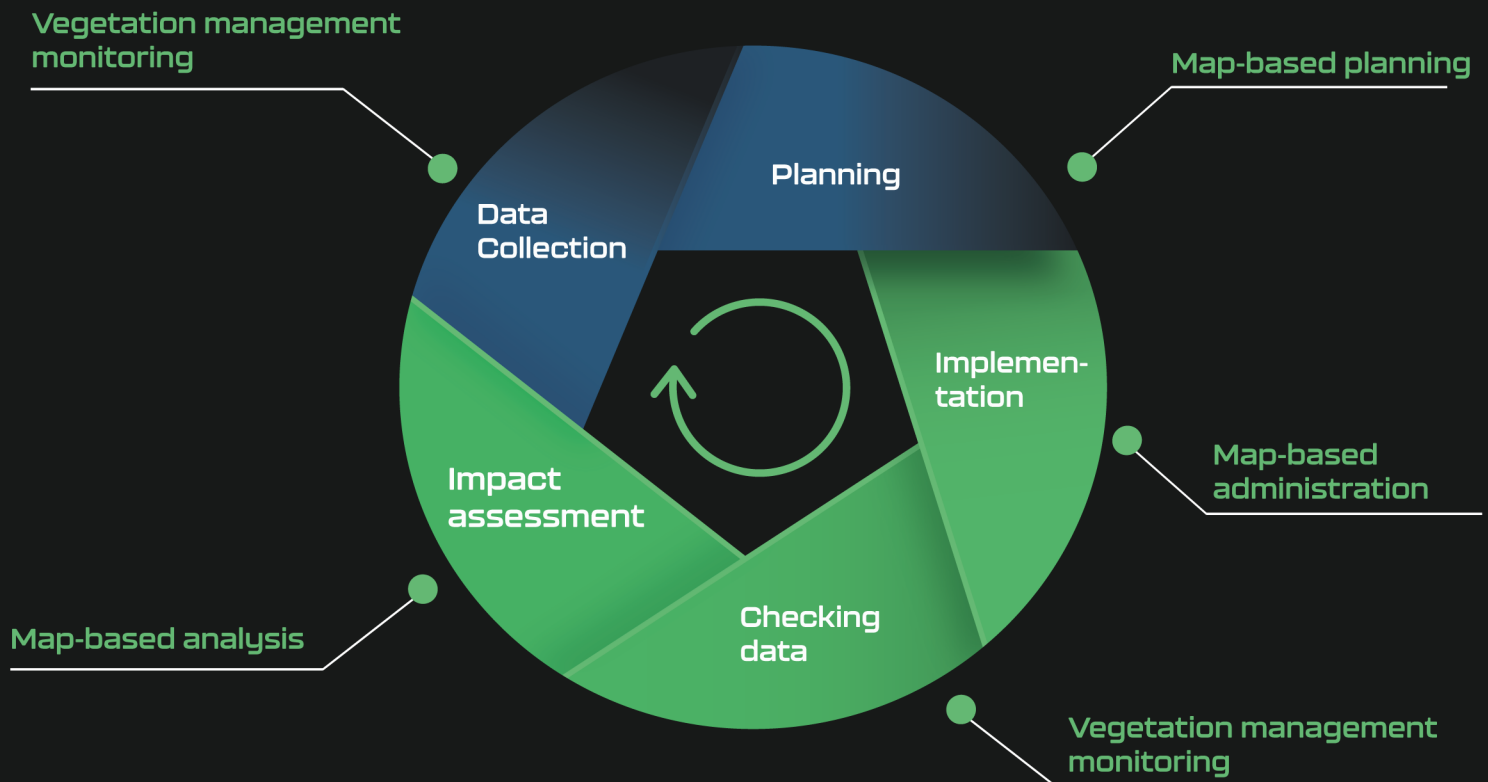
However, with proper design, vegetation of a certain height-typically up to 6-7 metres high-can be safely maintained under high-voltage power lines, ensuring safety and accessibility.

How does it work?

Data-driven vegetation management

A properly operating vegetation management system helps to **increase the efficiency** of the network by **reducing safety and outage risks**, **optimise costs**.
We illustrate how:

Vegetation management monitoring

Map-based planning

Planning

Data Collection

Implemen-tation

Map-based administration

Impact assessment

Checking data

Map-based analysis

Vegetation management monitoring

How does our system evaluate risk?

Our company has developed a vegetation matrix to display satellite imagery and data collected by a drone or car-mounted camera system.

This tool assesses the current state and exact location of vegetation in the safety zones in relation to the network, divided into height and growth categories. Furthermore, it includes a vector that takes into account the impact of vegetation on the network, fault statistics, number of consumers, and safety ratings where appropriate.

Network elements are strategically placed in this matrix, allowing for precise coordination of intervention priorities based on their position in the matrix.

Key requirements for a professional monitoring system

What are our expectations of an effective monitoring system?

Reliable and accurate
It must be reliable and accurate enough to effectively identify the position of the plants.

User-friendly
It must be user-friendly and understandable, with goal-oriented functionality.

Cost-effectiveness
Cost-effectiveness is also important, ideally with costs optimally spread over time, for example a monthly fee.

Up-to-date reporting
Thorough, up-to-date reporting is key, especially for the management of linear networks, which requires full map-based functionality and should support the whole process from monitoring to feedback.
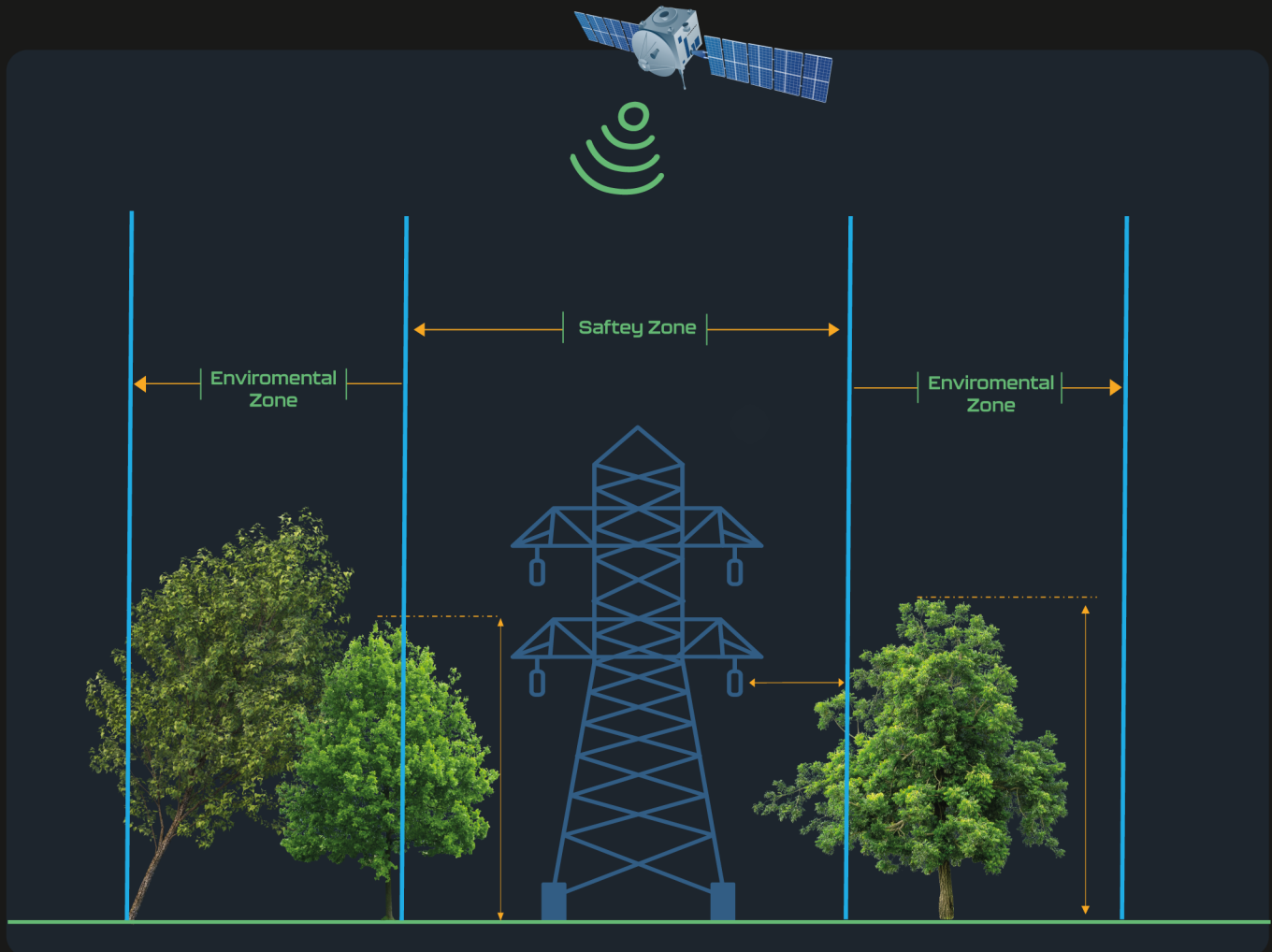
Free demo
It is essential to test the system free of charge before full implementation. The system should integrate seamlessly into existing processes or be flexible if necessary.

Area of application medium and high voltage networks

Discover the process of vegetation management.

Saftey Zone

Enviromental Zone

Enviromental Zone

Vegetation Zone Determination

The height and safety zone classification is specified by the customer and the system is parameterised accordingly.

Based on our experience, for high voltage, this is 30-50 m distance from the **EDGE** conductor on both sides, i.e. **SUM 60-100 m** band - where the vegetation height categories are defined by the customer.

For medium voltage, the safety zone is the distance from the **EDGE**conductor of 5 to 7 meters, the vegetation height from the conductor is 1 to 3 meters.

Basically, we are looking at 2 main things. One is whether the vegetation is within the safety zone and how tall it is.

This determines the classification of the plant.

Dangerous (1-3 metres from the wire)

Increased attention to change (4-5 metres from the wire, depending on vegetation type)

Regular

In a broader sense, we can also look at the environmental zone, where we typically need to look at plants whose height may cause a tree to break its conductor.

Visualization and color coding

The vegetation can be determined from the VI index and the altitude from radar. From the client, we get the topological area to be investigated, the distances, height classifications - and simply run on this and the output is a 3 status.

Dangerous

Increased attention to change

Everything is in order

If necessary, the power supply should be disconnected, and therefore these works should be planned and scheduled in advance.

Power Station

Based on the processed and evaluated data, we create task packages and close the items in the task package in the workspace with field application support.

Have a Question? Contact Us

If you have any questions or need guidance about our services, please contact us using one of the contact details below!

TALAMONE
Group

NIKOLAS NÉMETH, MGR., ING.

CTO/Regional Director – Europe

Contact us today to learn more about how we can help you automate your business and achieve your goals.

+421 918-813-359

nikolas.nemeth@hawk-system.com

In innovation, the question is not why, but WHY NOT?

USA, Canada, South-America, Australia:

TALAMONE Group LLC
Fort Lauderdale, USA
contact@talamonegroup.com
talamonegroup.com

Research and Development Centre:

HAWK MACHINE VISION LLP
Vancouver, Canada
contact@talamonegroup.com
talamonegroup.com

Europe Division:

HAWK SYSTEM SRO
Levice, Slovakia
contact@hawk-system.com
hawk-system.com

TALAMONE
Group

Hawk Machine
Vision

Hawk System
Artificial Intelligence