

Presenter:

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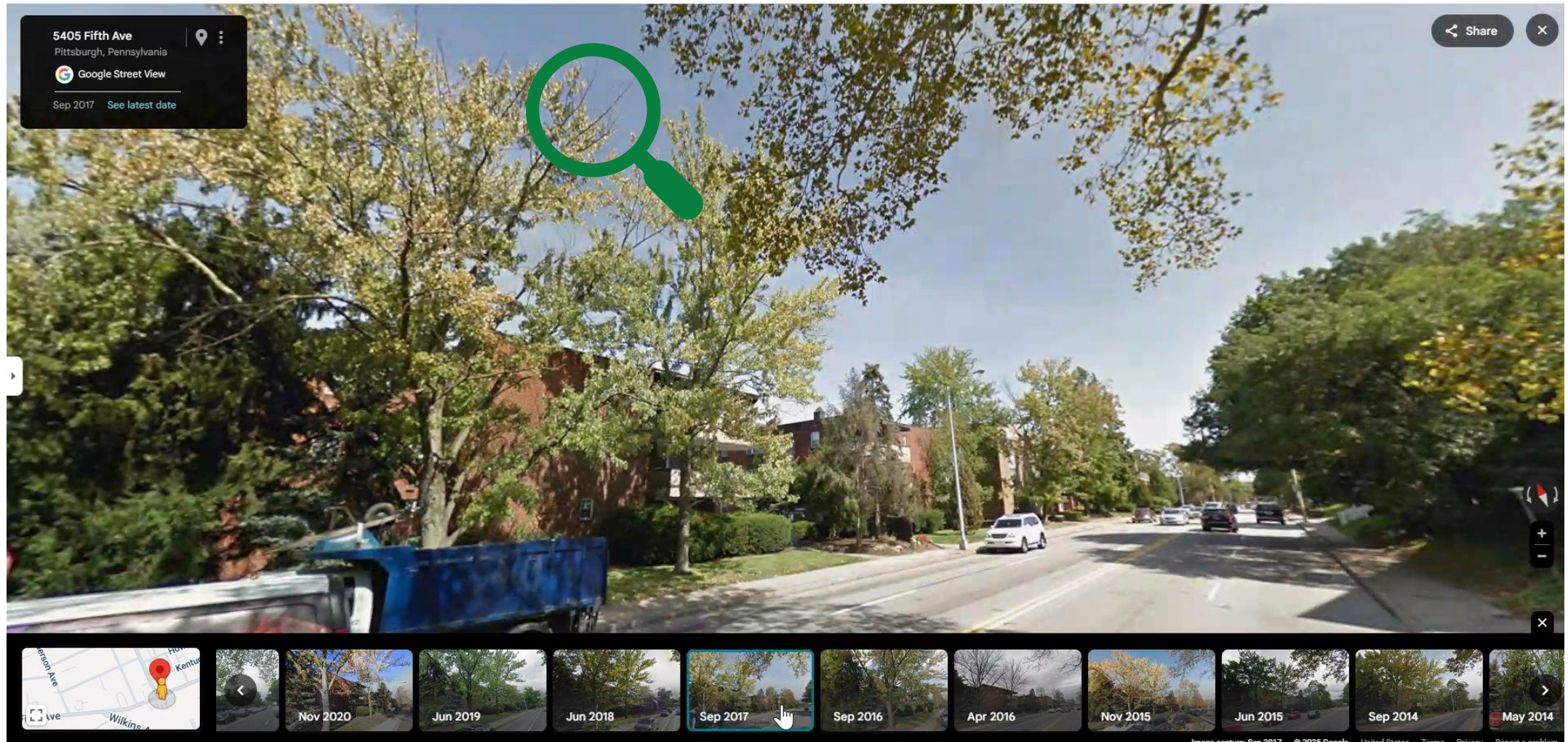


SMART TREE INVENTORIES

What If Trees Could Tell Their Story?



What If Trees Could Tell Their Story?



Make the Right Decision, On the Right Tree, **at the Right Time**

Should I
REMOVE
this tree?

Should I
PRUNE
this tree?

When will I
RETURN
to this tree?

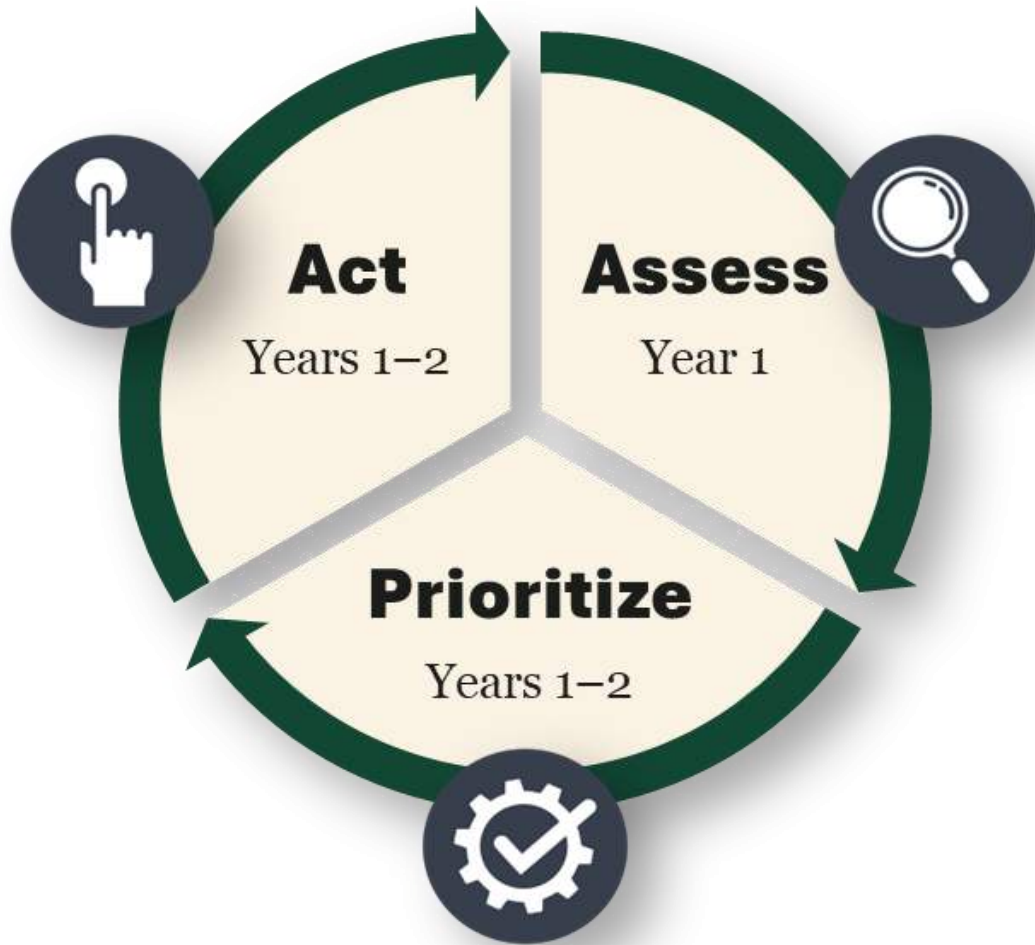
Should I
MONITOR
this tree?



Legacy GIS-Based Tree Inventories

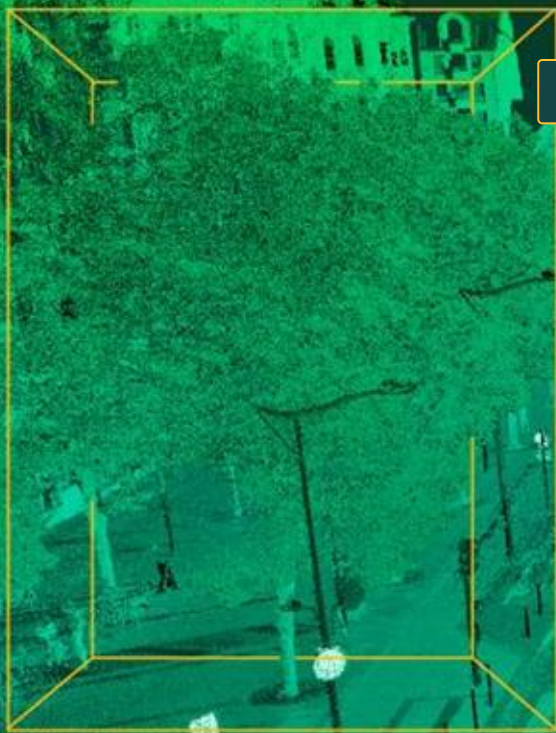


Smart Tree Inventories: Data + Context = Action



**Technicians gather data
using a mobile laser scanner
and 360° camera.**

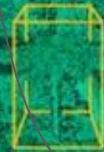
We capture cm-accurate point cloud and automatically identify each tree.



Tree



Tree



Tree

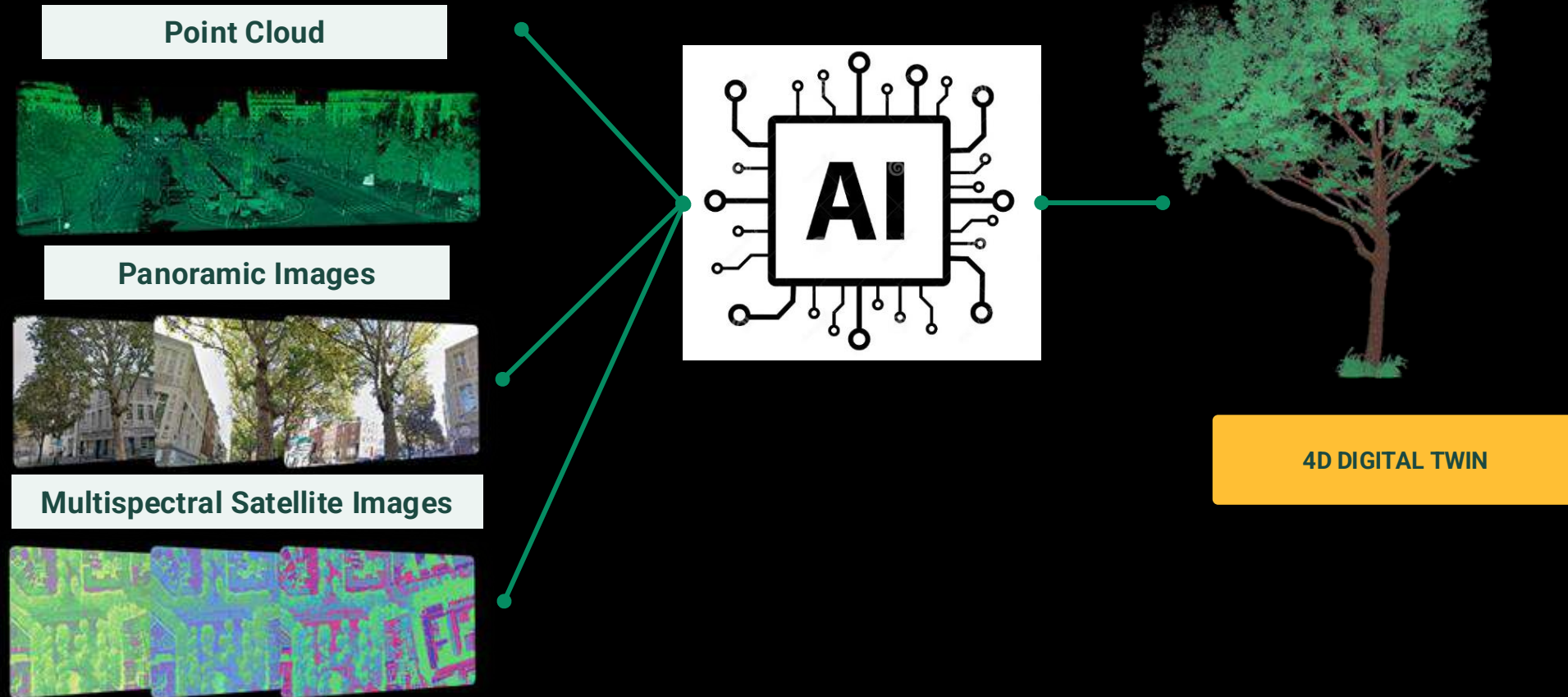
DAVEY 
Resource Group



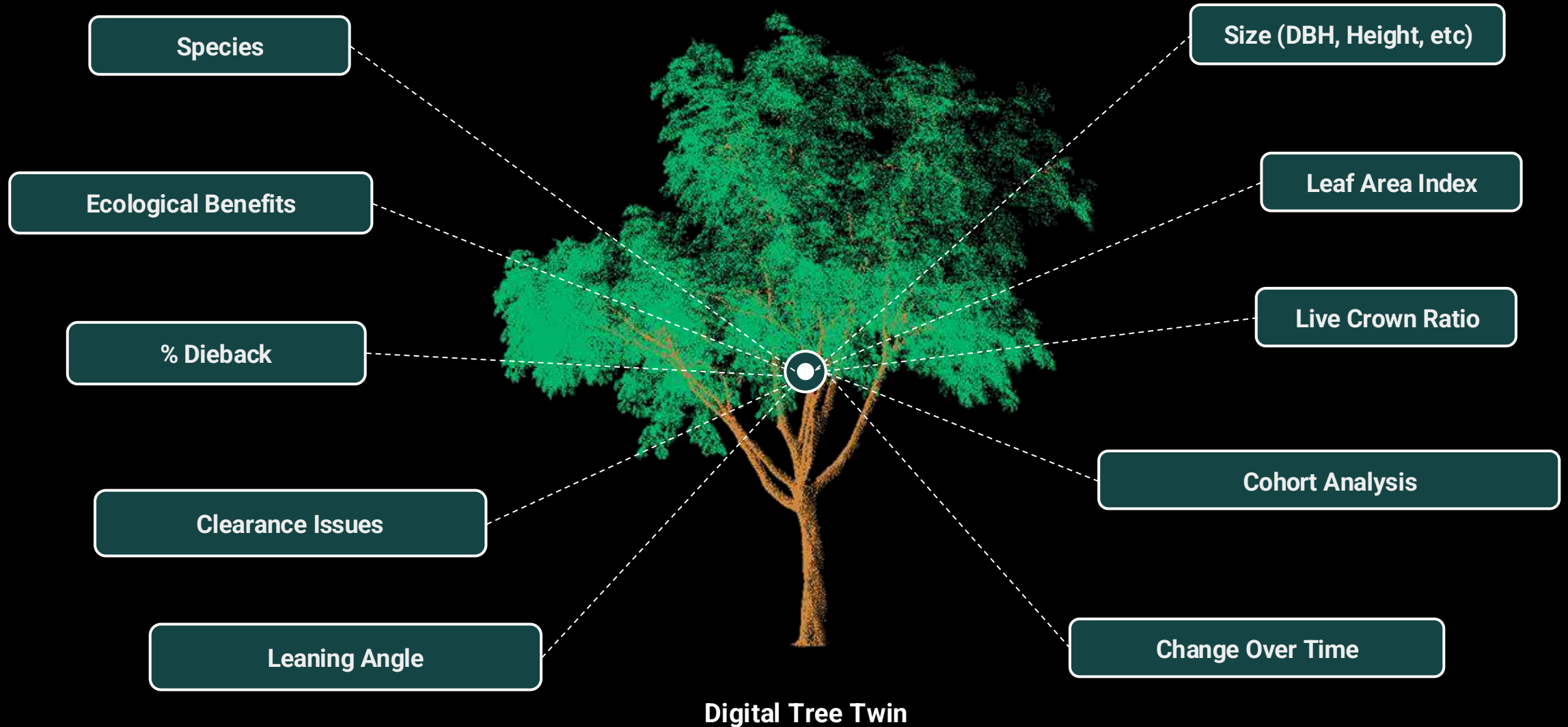
 **greenhill**



Create a 4D Digital Tree Twin of each tree



We analyze each tree and extract information



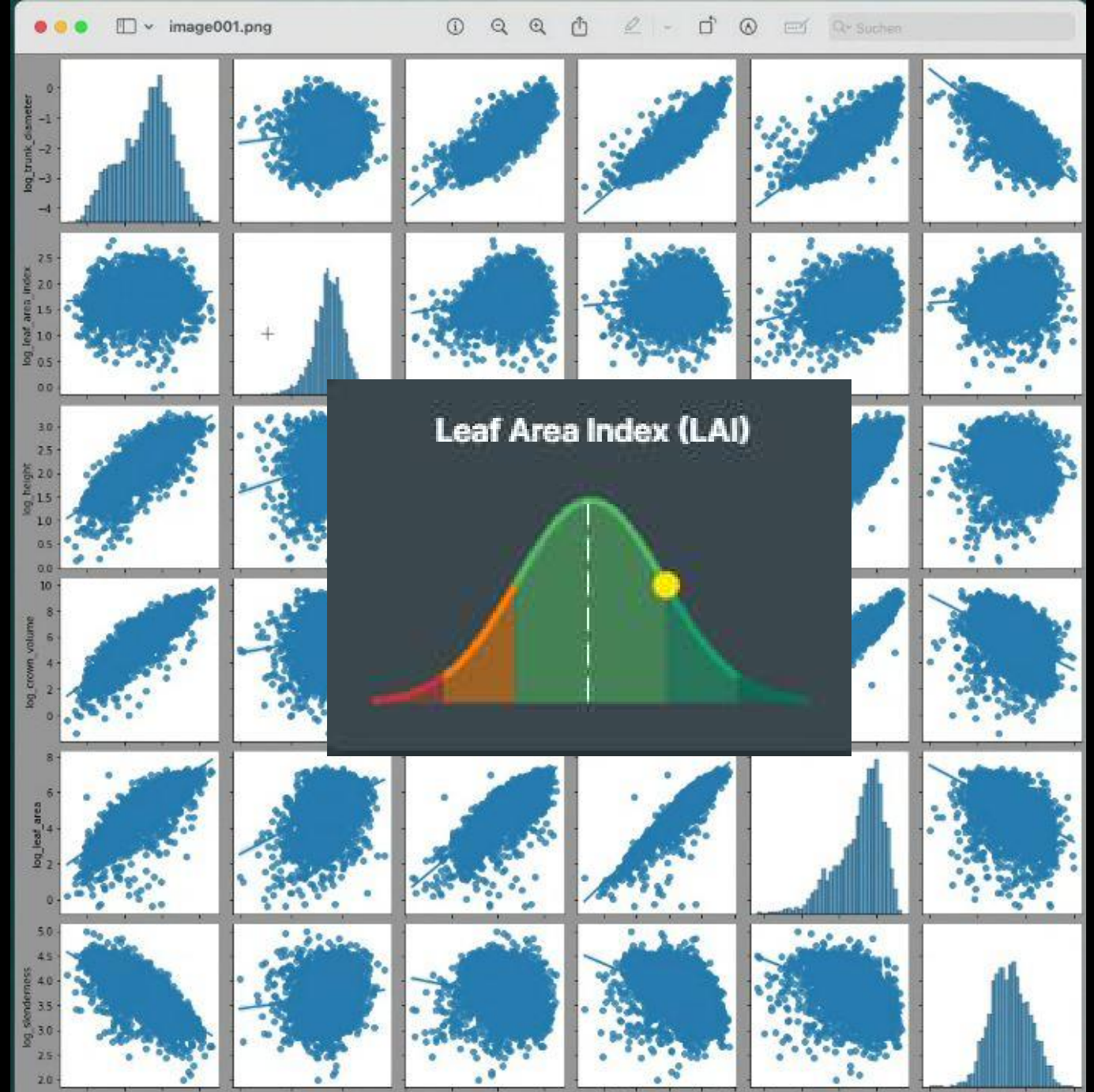
Defining Outliers

Absolute Outliers (cohorts)

- Dead trees
- Too much lean
- Leaf Area compared to Size
- Canopy Width vs Tree Height

Relative Outliers (filtering)

- Trees $> x''$
- Trees in certain neighborhoods
- Certain species of trees
- Trees $> 40\%$ dieback



Davey Arborists assess outliers

Remotely
0 - 20%



In Field
25 - 100%



TreeKeeper 360

The screenshot displays the TreeKeeper 360 web application interface. The top navigation bar is green with a search bar and a user greeting: "Welcome, Josh Behounek (DRG)". The main content area is divided into three sections: Reports, Charts, and a Preview Selected Chart.

Reports Section:

- Search bar with a magnifying glass icon.
- User Reports
 - Dashboard - Smart Tree - Condition Breakdown
 - Dashboard - Smart Tree - DBH Breakdown
 - Dashboard - Smart Tree - Risk Breakdown
 - Dashboard - Smart Tree - Species Breakdown
 - Dashboard - Smart Tree - Work Breakdown
- System Reports
 - Project Tracking** (highlighted with a green bar)
 - Species List Assignments
 - Work Order Tracking
 - Document Review
 - User Security and Layer Rights
- Custom Reports (Smart Tree)

Charts Section:

- Search bar with a magnifying glass icon.
- Charts
 - Smart Tree - Condition Breakdown
 - Smart Tree - Condition Chart** (highlighted with a green bar)
 - Smart Tree - DBH Breakdown
 - Smart Tree - Risk Breakdown
 - Smart Tree - Species Breakdown

Preview Selected Chart:

A pie chart showing the distribution of tree conditions. The legend indicates the following categories and colors:

- Not Assessed (Blue)
- Poor (Yellow)
- Critical (Orange)
- Fair (Dark Blue)
- Unassigned (Light Blue)
- Slice (Teal)
- Good (Green)
- Dead (Red)
- Very Good (Pink)

The pie chart shows a large blue slice (Not Assessed) and a smaller dark blue slice (Fair). The legend also includes a "Fair" category with a dark blue circle.

The bottom navigation bar includes links for Sites, Calls, Work, and Work Orders. The status bar at the bottom right shows "1 Total | 0 Queued".

Prescription Pruning – Smart Tree Management

Maple, Sugar at 131 Columbus St



0 Work Records

Show Work Records by Status

☒ Requested ☒ Scheduled ☒ Completed

Add Work

No work records found for this location.



Work

Work Species
maple, sugar (Acer saccharum)
Condition
Poor

DBH
26

Work Record

Load Last Work Record

Project * Required

Select

Work Type * Required

Select

Priority * Required

Select

Status: New Work Record

R

S

C

⊘

New Status: Requested

Requested Date

05/31/2023

Scheduled Date

mm/dd/yyyy

Completed Date

mm/dd/yyyy

Submit

Cancel

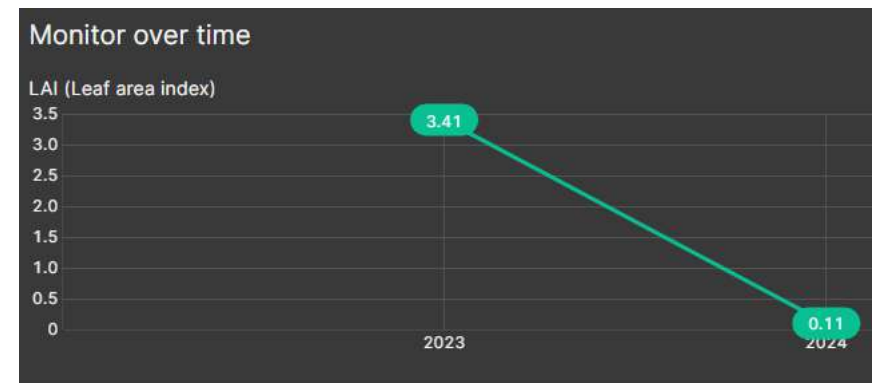
Change Over Time



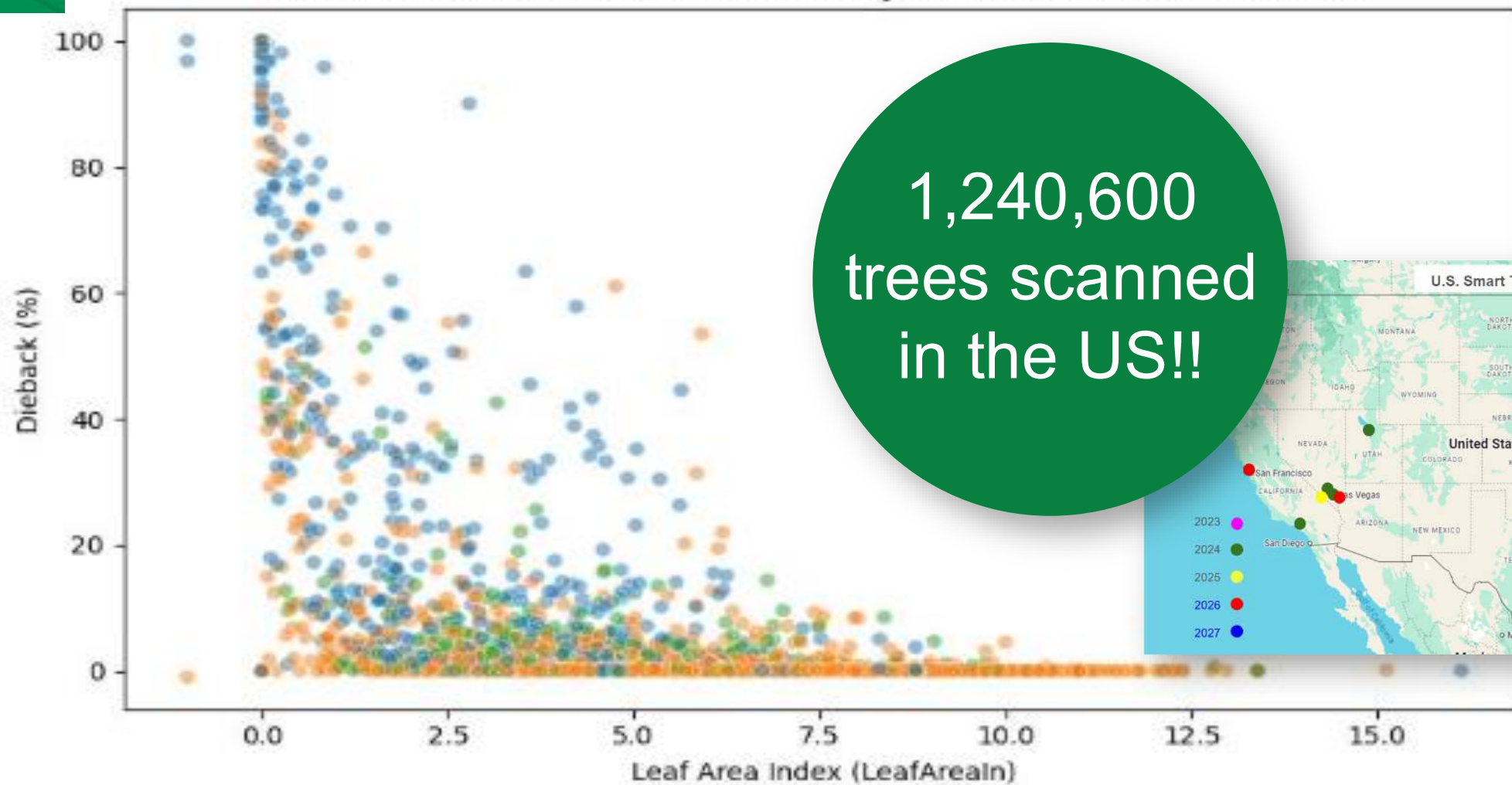
2023



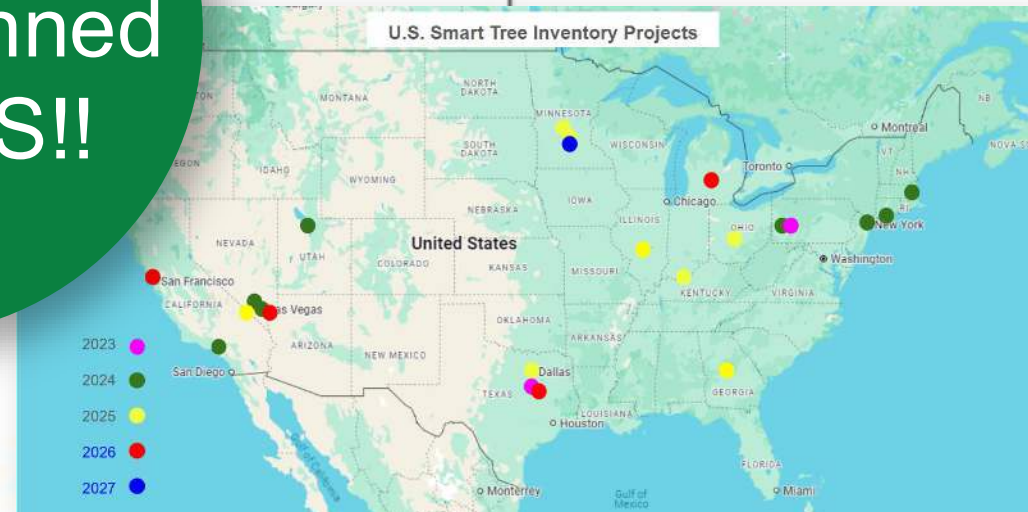
2024



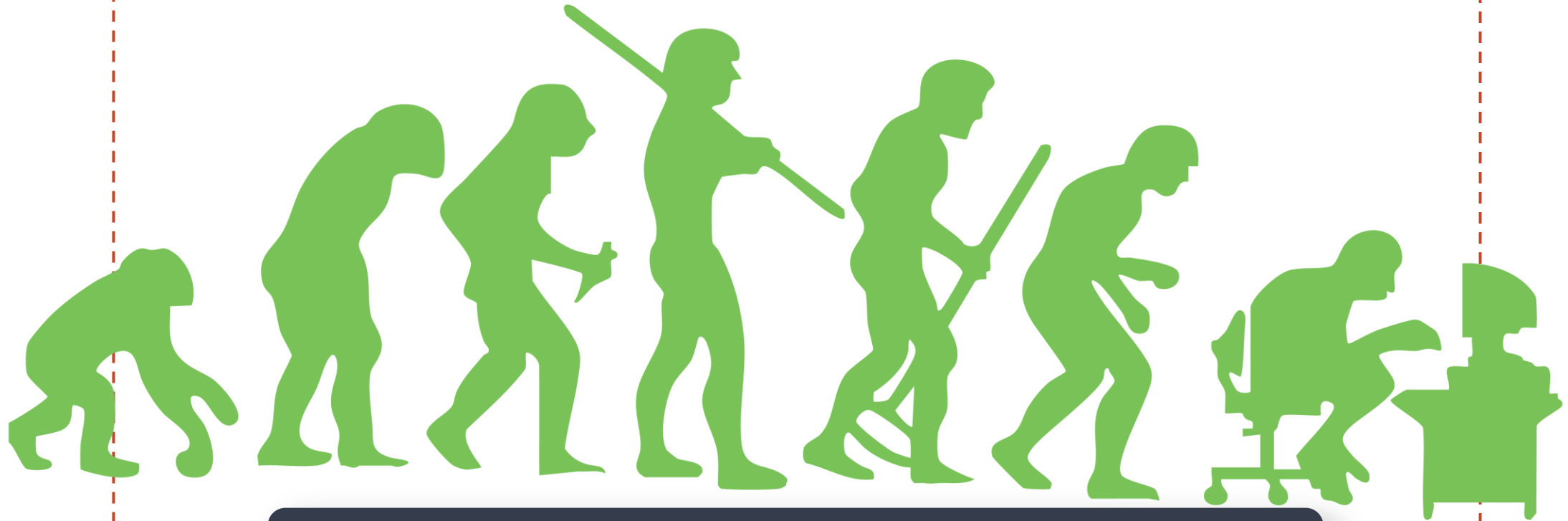
Dieback vs Leaf Area Index colored by recommended maintenance



1,240,600
trees scanned
in the US!!



**Technology won't replace arborists, but
arborists who use technology will replace
arborists who do *not*.**



Make the **right decision** on the **right tree** at the **right time**.



Map analytics



DBH



- Small
0,8 - 6,87 in
- Medium
6,87 - 11,8 in
- Large
11,8 - 16,7 in
- Very large
16,7 - 67 in

Curtis St

Moore St

Andrus St

Marcy St

Belhows St

Leora St

Leora St



Total: 58371



Tree ID



DBH [in]

