

LIFT

V O D A.ai

Artificial Intelligence for Predicting Water Main Failures

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A joint initiative of:



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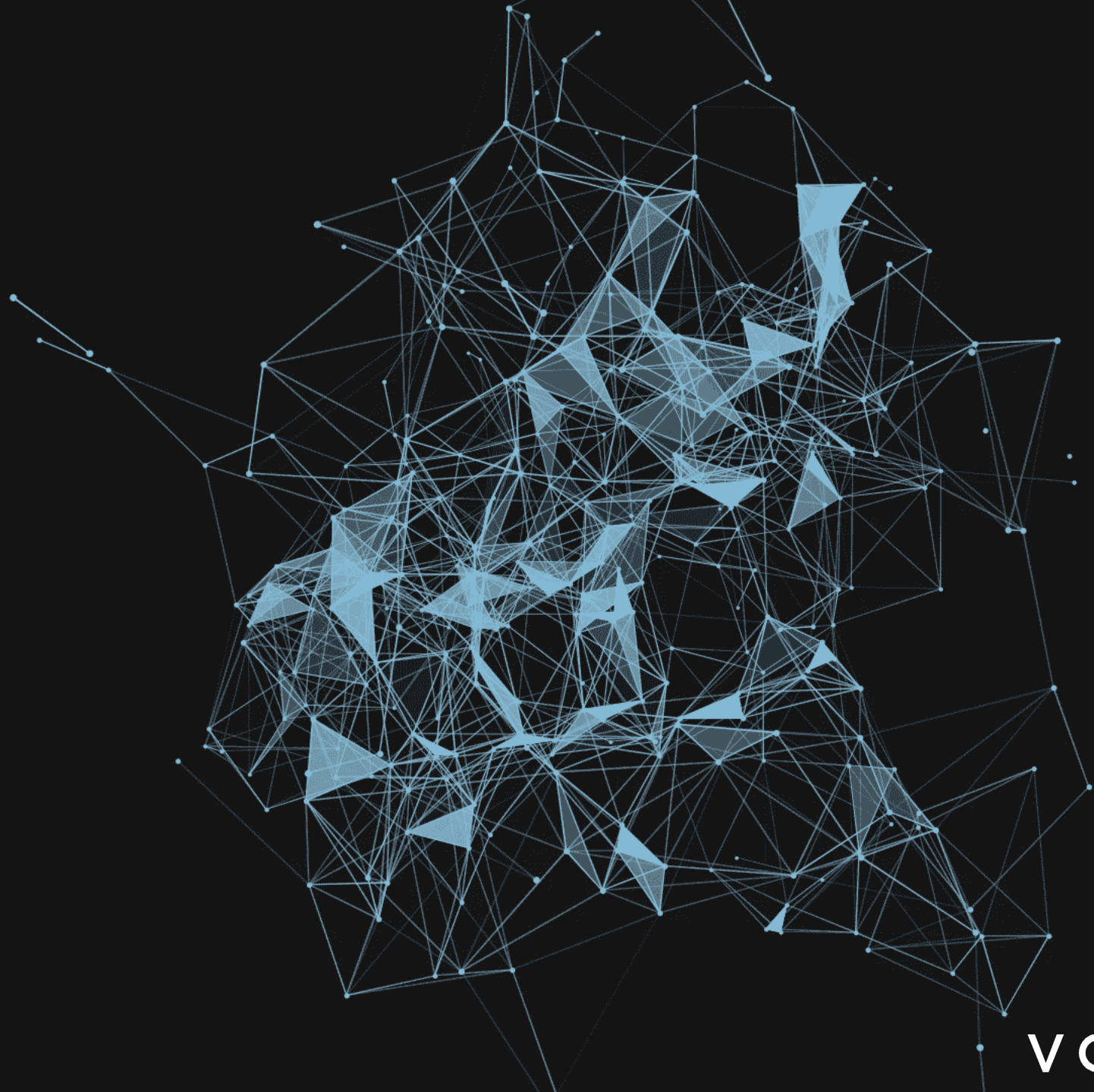


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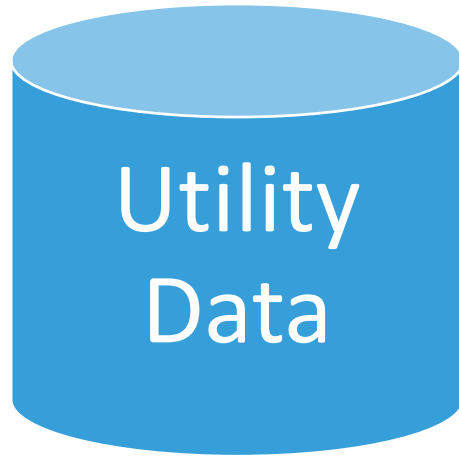


daVinci

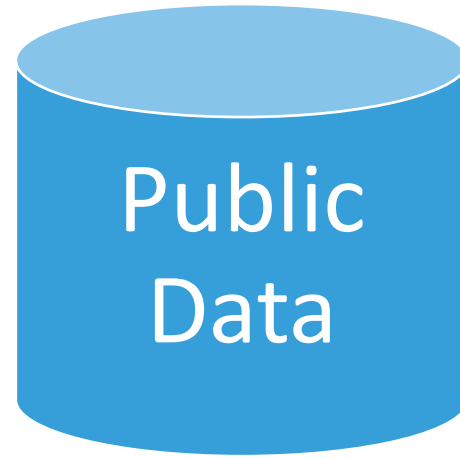


How it works

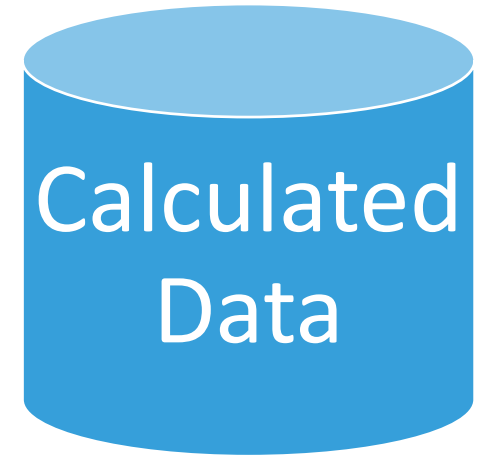
Build the Inputs



Material
Install Year
...

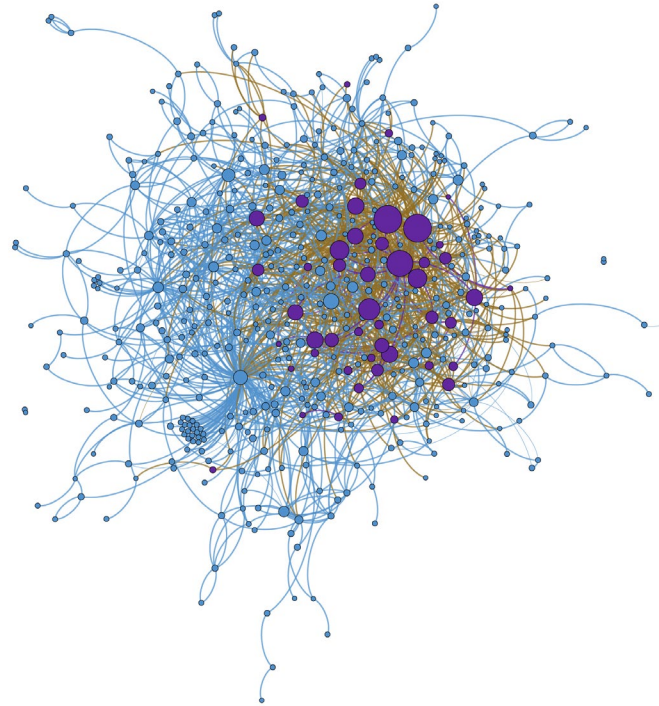


Soil
Land Use
...



Volume
Slope
...

Run the Machine



Top 1% of pipes ranked by BRE		
Pipes Being Displayed: 1 - 99		
> Pipe ID: 6337	100%	1
> Pipe ID: 6118	95%	2
> Pipe ID: 6053	90%	3
> Pipe ID: 5996	85%	4
> Pipe ID: 6398	80%	5
> Pipe ID: 5967	75%	6
> Pipe ID: 5847	70%	7
> Pipe ID: 4999	65%	8
> Pipe ID: 5533	60%	9
> Pipe ID: 5627	55%	10
> Pipe ID: 5677	50%	11
> Pipe ID: 5840	45%	12
> Pipe ID: 5573	40%	13
> Pipe ID: 5737	35%	14

DATA INPUTS

DAVINCI LEARNS

PIPE RANKING

How accurate is it?

Case 1

- Public utility with 5,000 miles of pipe (260,000 pipe segments)
- Engaged VODA.ai for a pilot project where VODA.ai “predicted” failures for 2018 (pilot was conducted in 2019)
 - VODA.ai correctly placed 50% of all failures in the top 1% of pipes ranked by Likelihood of Failure (LoF)
 - 86% of the pipes correctly identified in the top 1% had no prior failure



Case 1 – Comparing Methods

Case 2

- Public utility with 4,600 miles of pipe (190,000 pipe segments)
- Engaged VODA.ai for a pilot project where VODA.ai “predicted” failures for 2018 (pilot was conducted in 2019)
 - 17 of the top 18 pipe segments ranked by LoF – Failed during the pilot
 - Pipe ranked number 1 failed 2 months later (18 of the top 18)

“We are seeing a new way of doing business.”

Utility Director

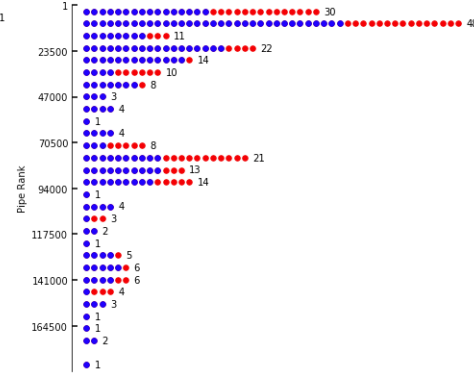


Case 2 – Looking for the Bull’s Eye

Prior Failures



Age



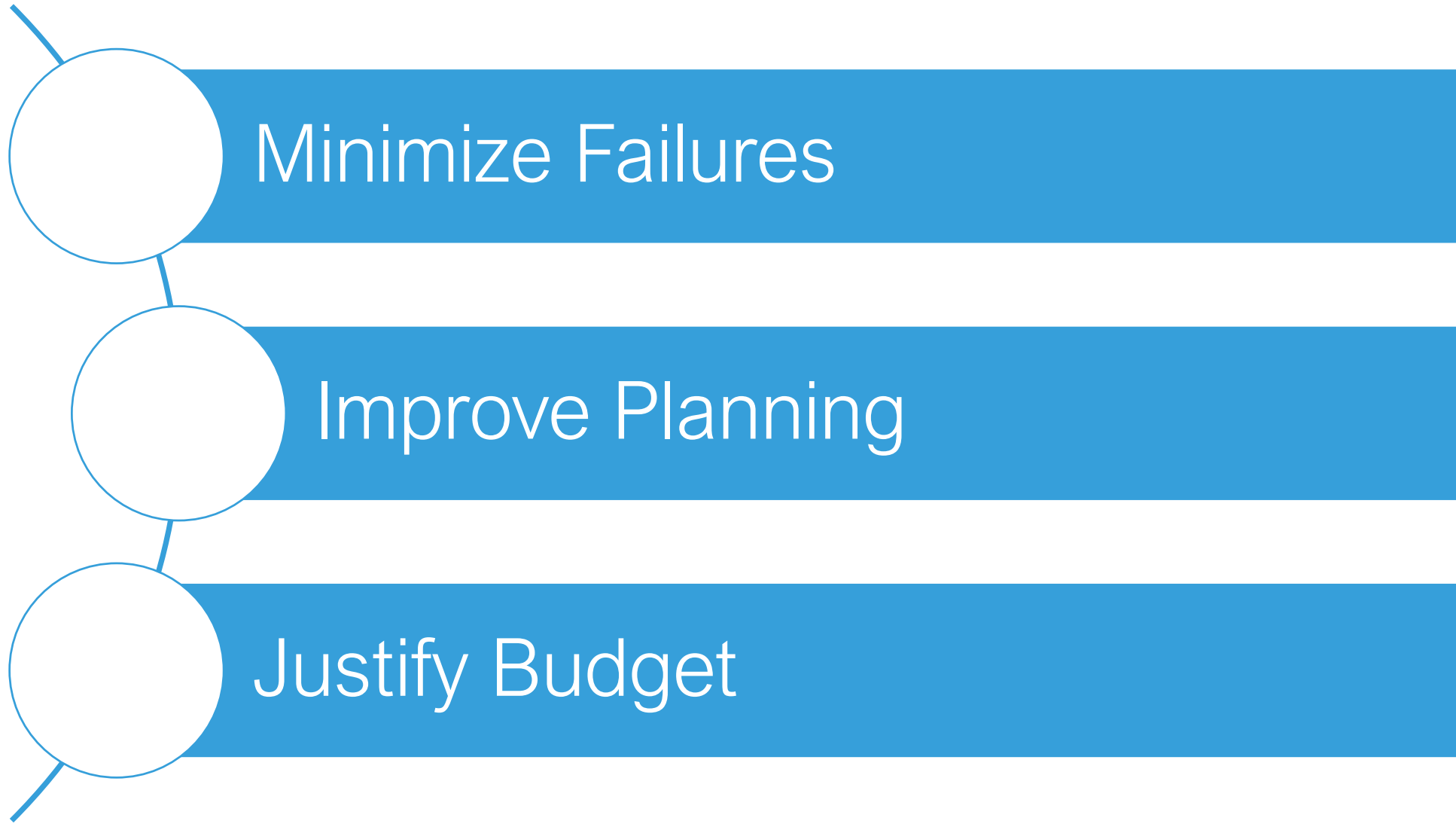
VODA.ai



■ = Pipes that Failed for the 1st Time

■ = Pipes with Prior Failures

VODA.ai caught nearly twice as many failures as the prior break model and 50% were pipes that had never failed before



Company

V O D A  **.ai**
Prioritizing Water
Infrastructure



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Utilities Tech Outlook



Best accuracy in industry



Easy-to-use software



Highest customer satisfaction



Water People



Thank You

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