

Optimizing Maintenance

Planning: Reducing Costs in Truck Air Systems in 2022



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Our Challenges

Problem:

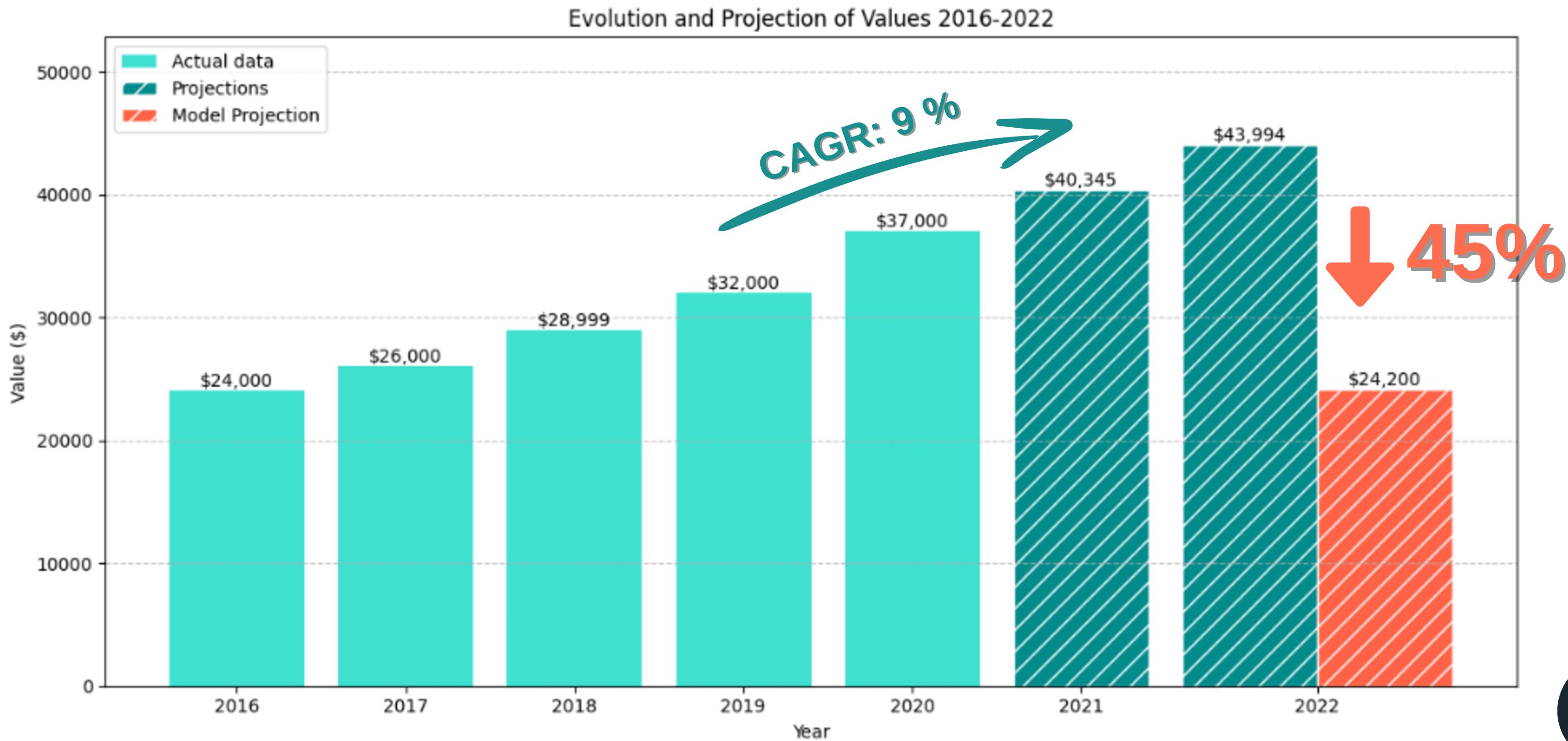
The company has faced a significant rise in truck air system maintenance costs over the past few years.

Challenges:

- Determine if it's possible to reduce these costs using data from 2016 to 2021.
- Identify the main factors contributing to potential failures in this system.



Projected 45% Cost Reduction with the Implementation of Our Model in 2022



Maintenance-Focused Model to Avoid Truck Breakdowns

No Costs



\$ 10

50x Less Expensive
Than Truck Breakdowns

\$ 500

Truck Breakdown



\$ 25

20x Less Expensive
Than Truck Breakdowns

Maintenance-Focused Model to Avoid Truck Breakdowns - 2022 Projection

No Cousts
Model: 15235 Trucks
(95,26%)



\$ 10
50x Less Expensive
Than Truck Breakdowns
Model: 390 Trucks (2,4%)

\$ 500
Truck Breakdown
Model: 23 Trucks
(0,14%)

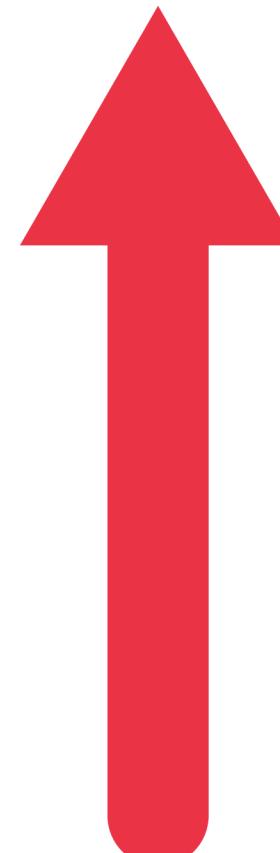


\$ 25
20x Less Expensive
Than Truck Breakdowns
Model: 352 Trucks (2,2%)

Top 10 Key Factors Affecting Truck Air System Performance

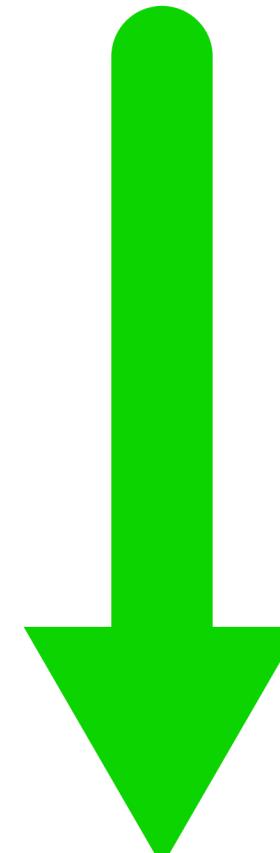
Cause

cn_001
dg_000
aa_000
by_000
ay_000
ee_005
ag_002



Prevent

ee_007
cn_006
bt_000



Next Steps

1 - Approval

2 - Deploy to Production

3 - Reports with Predictions

4 - Monitoring

5 - Model Improvements



Important Points to Ensure Predictive Success



- **Model accuracy above 97%** ensures reliable predictions;
- **Past data doesn't guarantee the future.** Conditions and variables can change, affecting future outcomes;
- **High-quality data is crucial.** Incomplete, incorrect or missing data can lead to unreliable results, reducing model effectiveness;



Thank You



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