

A detailed view of the International Space Station (ISS) in orbit above Earth. The station's complex structure, including multiple modules and large solar panel arrays, is clearly visible against the blue and white horizon of the planet. The perspective is from a high angle, looking down at the station as it orbits.

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sas

Intelligent Asset Management





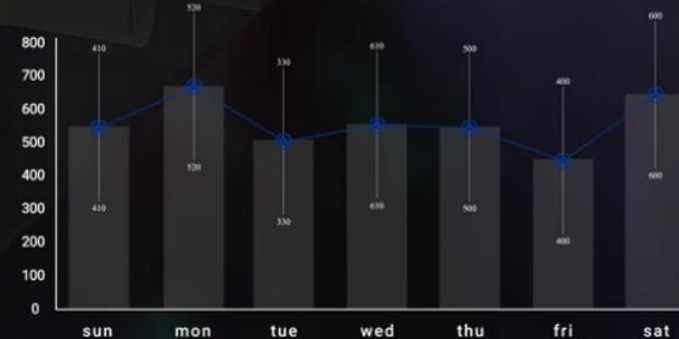
Temperature Monitoring



Current Value



History



Operations Center

JACOBS®

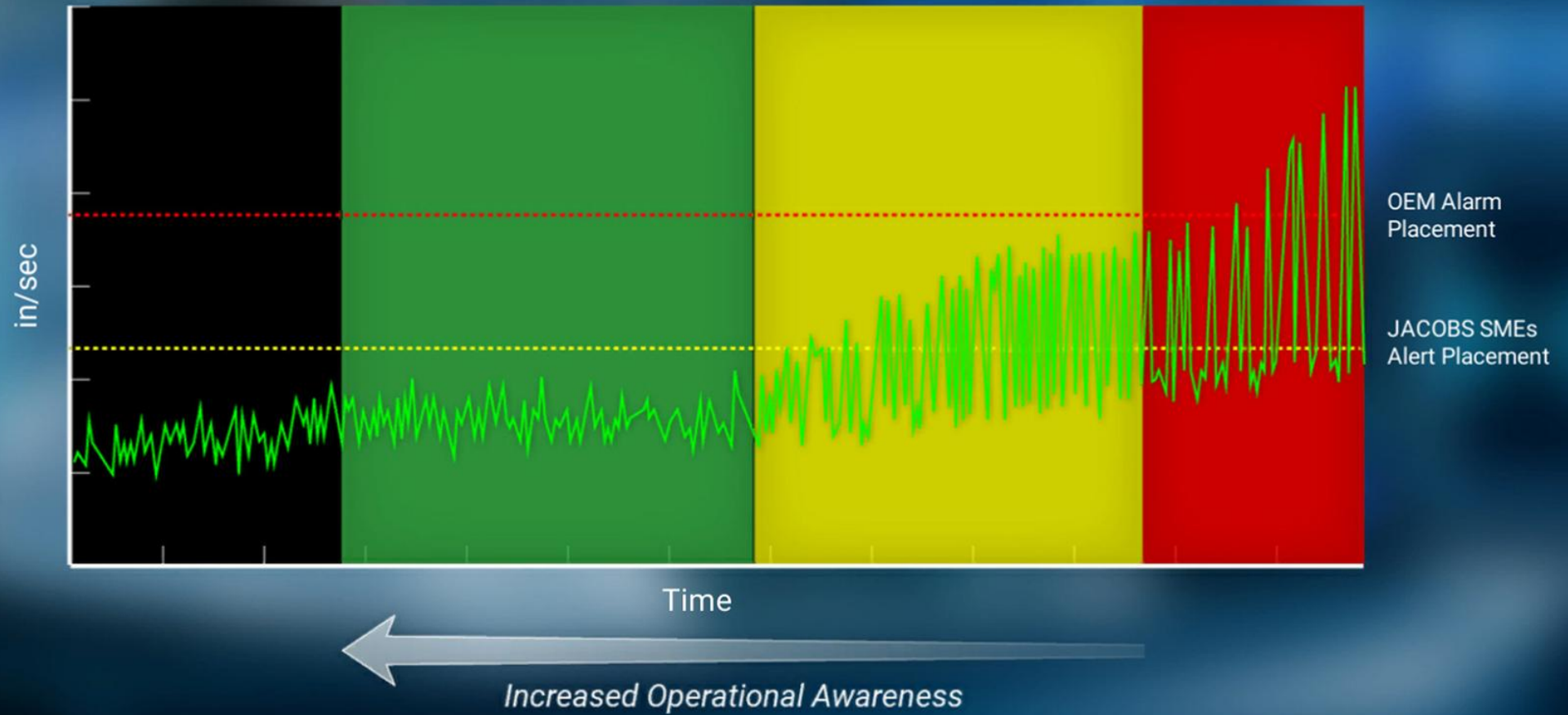


Motor Vibration

Predictive Analysis

Centralized Monitoring

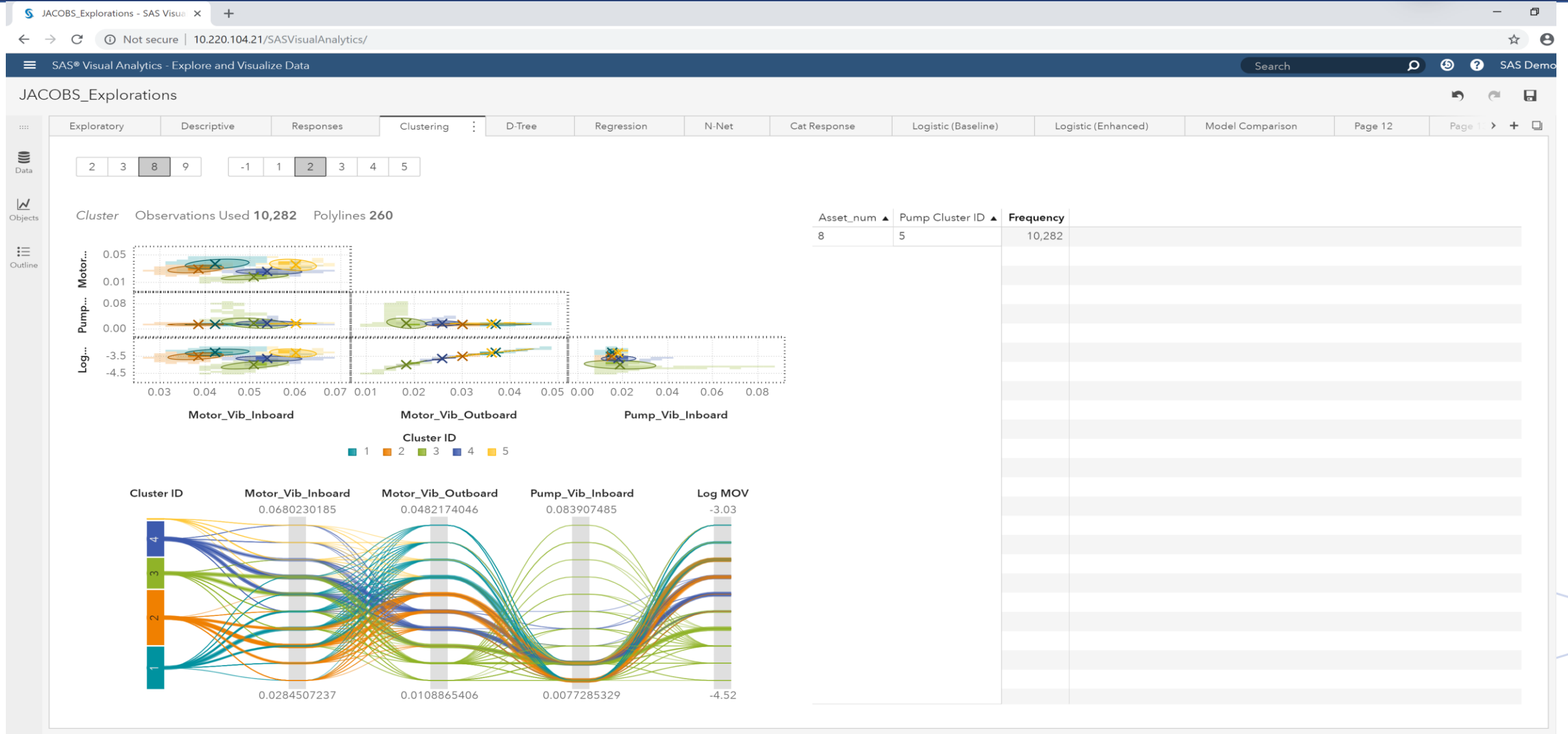
Traditional



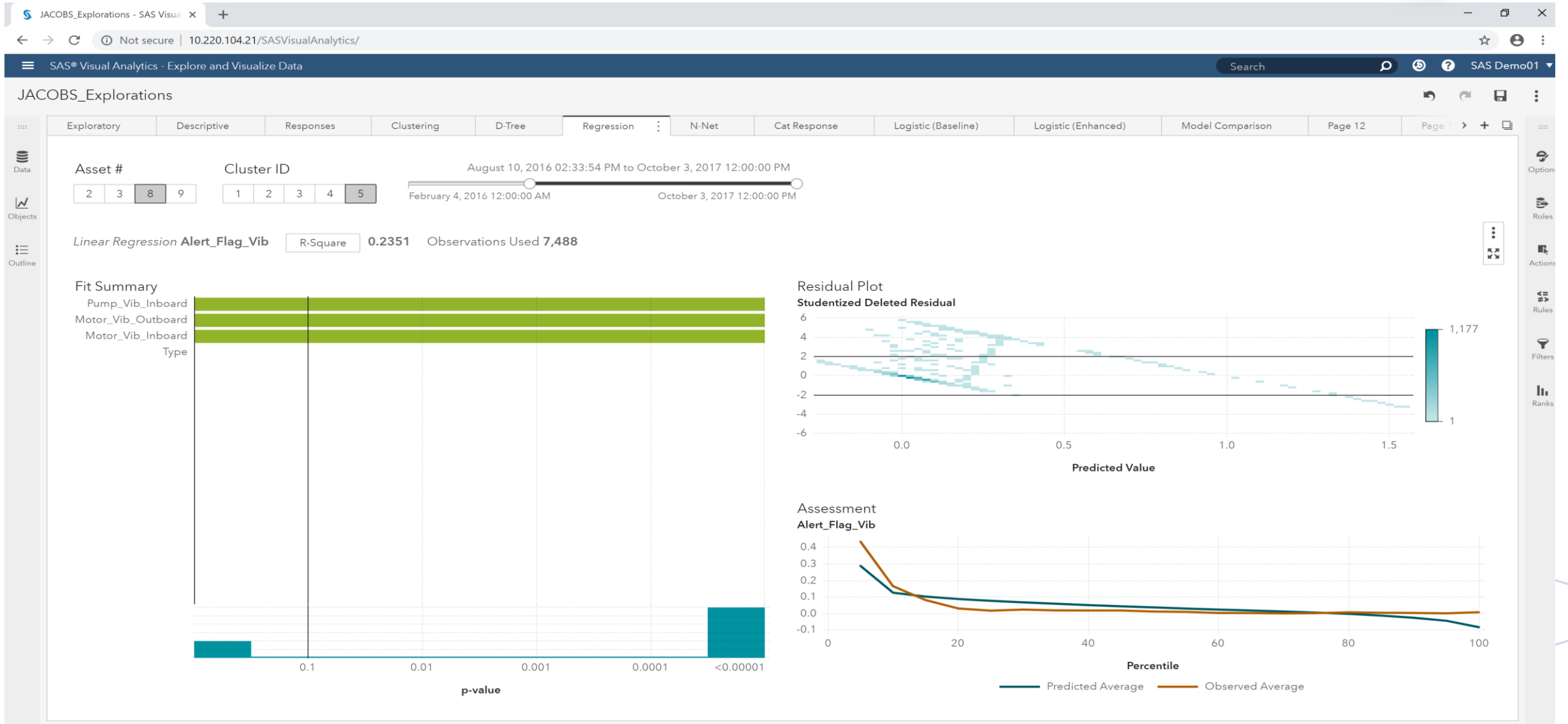
Data Cleaning and Normalizing



Unsupervised Machine Learning



Supervised Machine Learning



Deploying “Edge Analytics”



JACOBS_Explorations - SAS Visual Analytics

Not secure | 10.220.104.21/SASVisualAnalytics/

SAS® Visual Analytics - Explore and Visualize Data

JACOBS_Explorations

Exploratory Descriptive Responses Clustering D-Tree Regression N-Net Cat Response Logistic (Baseline) Logistic (Enhanced) Model Comparison Page 12

Asset # Cluster ID

2 3 8 9 1 2 3 4 5

Linear Regression Alert_Flag_Vib R-Square 0.2351

Fit Summary

	Pump_Vib_Inboard	Motor_Vib_Outboard	Motor_Vib_Inboard
Type			

Export Model

```
1  /*-----*/
2  The options statement below should be placed
3  before the data step when submitting this code.
4  /*-----*/
5  options VALIDMEMNAME=EXTEND VALIDVARNAME=ANY;
6  /*-----*/
7  Generated SAS Scoring Code
8  Date : 14Feb2018:12:04:50
9  Locale : en_US
10 Model Type : Cluster
11 Interval variable: Motor_Vib_Inboard
12 Interval variable: Motor_Vib_Outboard
13 Interval variable: Pump_Vib_Inboard
14 /*-----*/
15 length _WARN_ $4;
16 label _WARN_ = 'Warnings';
17 label _CLUSTER_ID_ = 'Cluster ID';
18 label _DISTANCE_ = 'Distance to Centroid';
19
20 _i_ = 0;
21 _j_ = 0;
22 _k_ = 0;
23 _l_ = 0;
24 _dist_ = 0;
25 _minDist_ = 0;
26 _found_ = 0;
27 _unknown_ = 0;
28 _unknownflag_ = 0;
29 _intMindist2Cntr_ = 0;
30 _missingflag4Int_ = 0;
31 _numberOfIntVars_ = 3;
32 _minDistInt_ = 0;
33 label _STANDARDIZED_DISTANCE_ = 'Standardized Distance to Centroid';
34
35 drop _i_;
```

Export Cancel

Percentile

Predicted Average Observed Average

p-value

0.1 0.01 0.001 0.0001 <0.00001

1,177

1.0 1.5

60 80 100

Connected Places

CUSTOMER:
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

OPEX savings exceeding 35% over 4 years
achieving award winning uptime and reliability.

JACOBS



Connected Places

CUSTOMER:

GENERAL MOTORS AND FORD MOTOR COMPANY

Operational efficiencies increased capacity by 20% and saved \$30 million in CAPEX/OPEX.



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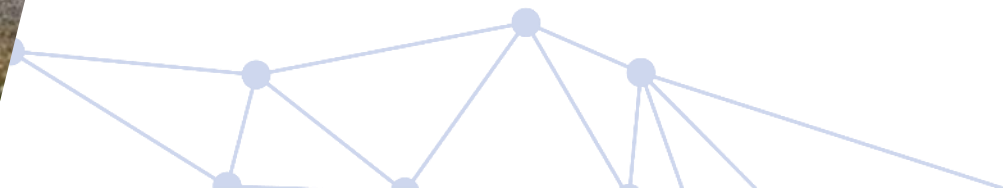




Connected Places

CUSTOMER:
VOLVO AND MACK TRUCKS

Remote diagnostics resulted in a 25% improvement in repair time on over 175,000 trucks.





GE
Transportation

PI-WORLD 2019



Connected Transportation

CUSTOMER:
GENERAL ELECTRIC TRANSPORTATION

Edge analytics improve reliability and efficiency of locomotives and lowers total cost of ownership.



Let's keep talking

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