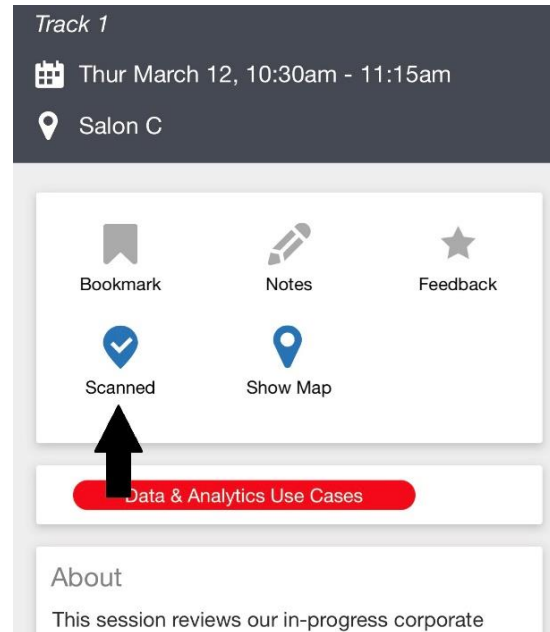


Welcome!

The presentation will begin shortly

If your badge was not scanned at the door, please use the self check-in feature in the session details in the Schedule.



Track 1

Thur March 12, 10:30am - 11:15am

Salon C

Bookmark Notes Feedback

Scanned Show Map

Data & Analytics Use Cases

About

This session reviews our in-progress corporate

Hosted by:



Self-Service Analytics and Data Driven Decision Making

Khuzema Tikiwala

Solution Architect – Analytics / BI

Meritor Inc.

3/19/2020



Agenda

- Introduction
- Self-Service Analytics
- Enabling Self-Service Analytics With Qlik
- Use Cases
- Analytics in Digital Transformation / IIoT
- Q & A

Introduction



RT14X Tandem Axle



About Me



Graduated from Indore University as Mechanical Engineer in 1991

Diploma in Marketing Management in 1994

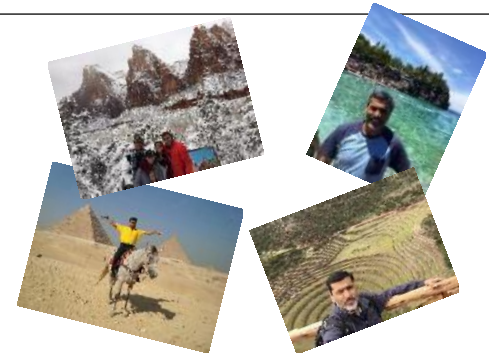


in Finance in 1996

Diploma in Advance Computing



Passionate about music/singing! Hosted a radio program on AM 1460 for 2 years



Favorite Places
Mountain/Beach



Community Service



MERITOR at a Glance

Meritor is a leading global supplier of drivetrain, mobility, braking and aftermarket solutions for commercial vehicles and industrial markets.



MTOR
NYSE Symbol



\$4.4 Billion
Company



9,100
Employees



19
Countries

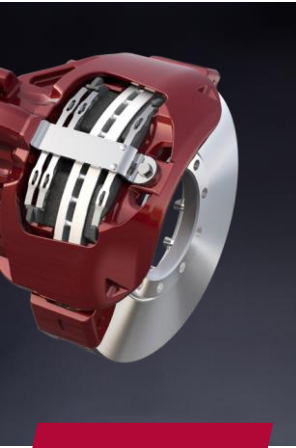


Troy, MI
Headquarters



RUN WITH THE BULL

Diversified Product Portfolio



Truck

- Axles
- Drivelines, universal joints and yokes
- Cam, air and hydraulic brakes
- Automatic slack adjusters



Trailer

- Axles
- Air ride suspensions
- Meritor Tire Inflation System™ (MTIS)
- Brakes



Defense

- Full portfolio of axle and brake technology
- All-wheel drive systems
- Independent suspension axle systems (ISAS)
- Military-grade drive axles
- Transfer cases



Off-Highway

- Heavy-duty front and rear axles
- All-wheel drive systems
- Transfer cases
- RT crane axles



Specialty

- Front and rear axles
- All-wheel drive systems
- Transfer cases
- Gearboxes
- PTOs



Aftermarket

- Original equipment service parts
- All-makes programs
- Remanufactured parts



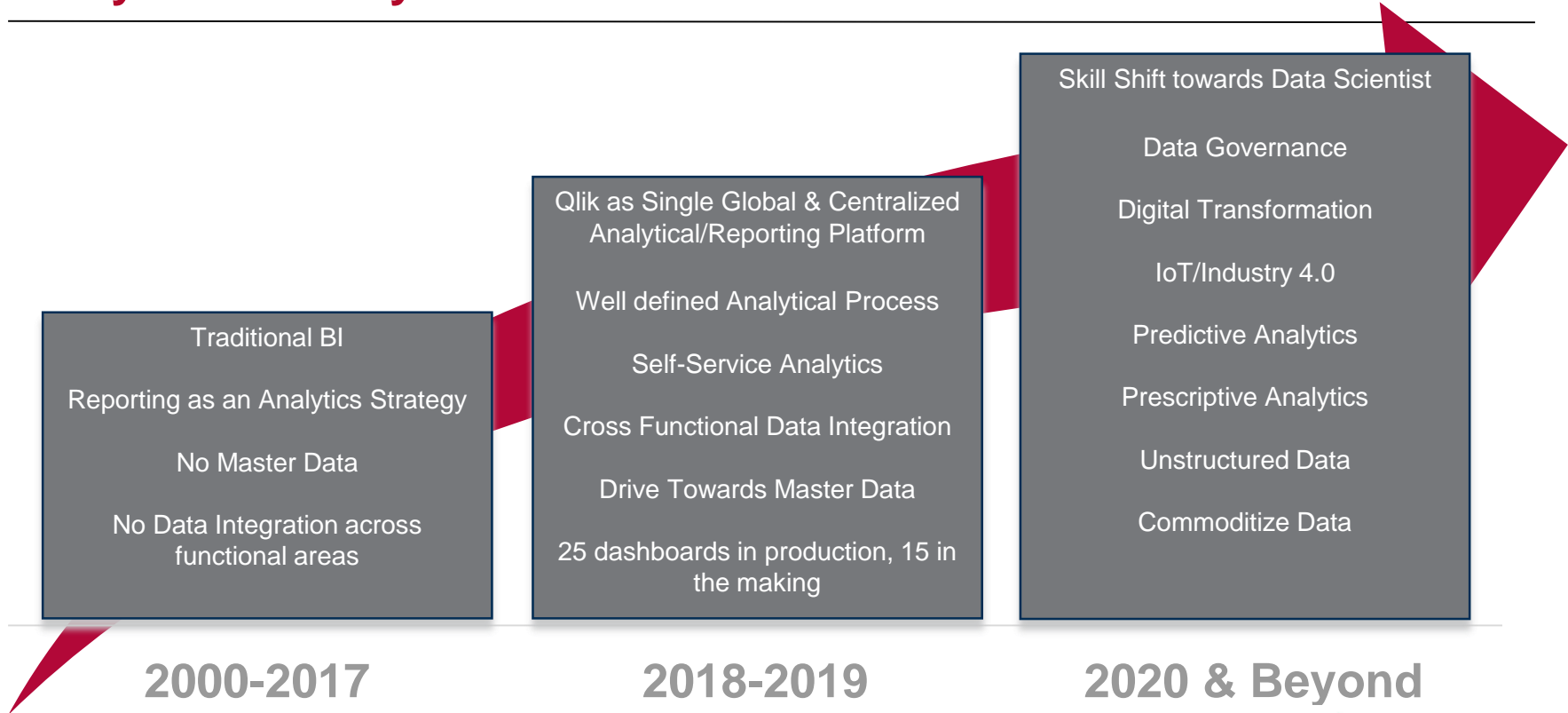
Self-Service Analytics



Meritor Tire Inflation System (MTIS™)



Analytics Journey



Self-Service Analytics

- Business users build the dashboards
- IT provides governance, security, upgrades, data connections, migration of dashboards, technical support and trainings
- Business controls who can access Qlik dashboards
 - Security based on windows AD groups
 - User requests access through a Qlik Access Request form
 - Business approves or rejects access
 - No IT intervention needed. Once a user is approved, access is granted automatically
- Training
 - Group training
 - Continuous One on One training

Self-Service Analytics

➤ Dashboard registration

- Every Dashboard is registered through a registration form
- Information captured is: Dashboard owner, developer, data age information and functional details about the dashboard
- All the information is displayed in a mandatory Functional Details sheet in each dashboard
- Any new user of the dashboard knows who to contact in case of any questions

Self-Service Analytics



MERITOR Functional Details

App Details

These properties are derived from the Qlik server and the Global Reportal

Property	Value	Remarks
App ID	967fa0b-26bc-46b9-ae10-713c6856a163	
App Name	Supplier Scorecard Dashboard [#1037]	
App Description	This is the Supplier Scorecard dashboard. Supplier scorecards are printed monthly from this dashboard and the sheets within this dashboard contain the supporting material to supplement	
App Size (Mb)	52	
Report ID	1037	The Qlik app rep
Remarks	-	None
Qlik Server	host name not defined in script for A11W3V1334	
Stream Name	Purchasing	
Stream Location Status	prd	
Date Created	Oct 17, 2019 9:17 PM (GMT-05:00)	
Date Modified	Mar 5, 2020 10:34 AM (GMT-05:00)	

Functional Description

This is a functional description of what this dashboard is about, how it works and other relevant information.

This dashboard serves the purpose of creating a template for creating a supplier scorecards via printing services monthly. The scorecard is the first sheet in the dashboard and allows the users to print the scorecards to PDF on the fly. The remaining sheets on the dashboard supply users with the supporting data that makes up the scorecard. It is intended to combine data for the users in a single place to get quick answers to frequently asked spend, savings, quality, and delivery questions.

The data for this dashboard is coming from the common, procurement, and ProcurementSSC schemas in the data warehouse. This dashboard also pulls in data from the Subjective SharePoint as well as dashboard owner maintained data from Excel files from a SharePoint document library.

Supplier Scorecards Dashboard Changes

Change Date	Change Name	Change Type	Change Description
1/30/2020	Delivery	Data Quality	The ETL package that pulls the delivery data into the warehouse was missing pulling in FX rates consistently for some sites. IS has resolved the issue.
1/30/2020	Delivery	OTIF Tolerance Update	The team received guidance from Supply Chain leadership to update the delivery tolerances for the on-time in-full (OTIF) metric. All CVS and CVA are now aligned to the same tolerances globally. CVS has a ± 1 day for domestic and ± 5 days for international shipments globally. CVA now has a -5 + 2 days for domestic and ± 5 days for international shipments globally.
1/30/2020	Fiscal Month Labels	Bug Fix	Fixed inconsistent labeling of fiscal months. For December and January fiscal months, depending on where the fiscal months started and ended, it would sometimes show the next or prior calendar year on the label. Eg January FY19 was showing 2018-Jan because the fiscal month started in December of 2018. The data was being sliced correctly on the back-end, the label was just incorrect.
1/13/2020	Delivery	Data Quality	The ETL package that pulls the delivery data into the warehouse for Qlik to consume was discovered to be duplicating rows. IS has remedied the duplication issue. September and October PDF scorecards have been removed from the SharePoint.
12/11/2019	Forecasts	Data Quality	The dashboard had previously been updated to automatically select the correct forecast, but forecast had not been removed from all calculations. Removed all references to forecast in all tables and calculations.
12/11/2019	Savings Sheet	Bug Fix	A change in how the estimated savings was calculated validated on FY19 data correctly but didn't correctly roll over to FY20. Some savings inadvertently fell off of the calculation depending on when the program started. Most charts were showing the correct percentage but the calculation that determines the grade was ignoring the prior fiscal year programs. This has been corrected.
12/11/2019	Spend Sheet	Bug Fix	The wrong currency code was put into the spend table which caused rows to appear duplicated. This didn't cause issues with the spend but greatly increased the number of rows. The correct currency column has been added to the table. In addition future fiscal months without spend were showing in the table and have also been removed.



Self-Service Analytics

➤ Dashboard Migration

- Dashboard developers initiate the dashboard migration using a SharePoint form
- Dashboard owner (business) get's notification for approval/rejection
- After approval, IT gets notification and migrates the dashboard

Enabling Self-Service Analytics With Qlik



Permalube RPL Series Driveline



Enabling Self-Service Analytics With Qlik

➤ Meritor Data Dictionary Dashboard

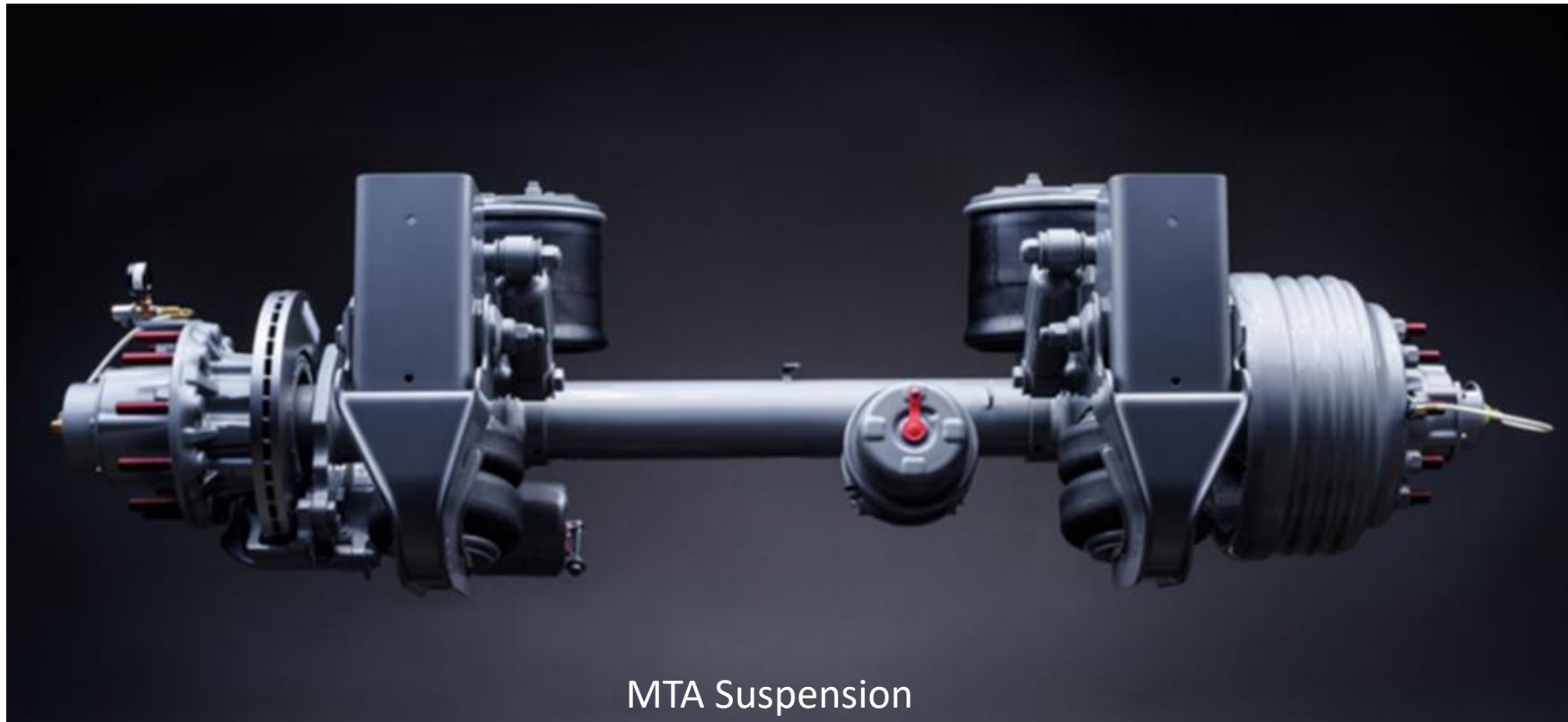
- A complete inventory of data available in data warehouse
- Users can see what data is available in the data warehouse
- Simple search function to find data elements
- Users can find out if the data can be used in Qlik
- Information on Qlik data connection availability for the data
- User can request access to data connection directly from the dashboard

Enabling Self-Service Analytics With Qlik

➤ Qlik Access/Usage Dashboard

- Users can see who have access to each dashboard
- Used for regular Qlik access audits
- Stream owners can see who is accessing which dashboard in their stream
- Stream owner can see when was the last time a user accessed a stream/dashboard and decide to revoke someone's access

Use Cases



MTA Suspension



Use Cases

Sales and Margin Analysis:

Dashboard to analyze sales, profitability margin and cost allocation

➤ Before

- Data accessible only through Excel.
- Mostly aggregate data. No drill down capabilities

➤ Benefits

- Found many under the radar issues with margin. Many high margin product which were ignored
- Concept of minimum profitability margin for each product line. This was not there before this dashboard launch
- Uncovered many profit opportunities which were missed



Use Cases

Sales and Margin Analysis:

➤ Benefits

- Improvement in cost allocation model. Cost was allocated at a higher level and was making some products look bad. Cost allocation is now happening at lower level
- An estimated opportunity of saving \$1 million per year

“Coolest thing I have ever seen”

“It’s a treasure trove of information”

“It must feel great to deliver something that adds so much value to the business”



Use Cases

Resource Metrics for Engineering Lab:

Dashboard to analyze resource utilization for Test Labs across the globe

➤ Before

- Manual report preparation for daily meeting
- Mostly aggregate data. No drill down capabilities
- Whiteboard displays for daily briefing meetings

➤ Benefits

- Standardization of test lab KPIs
- Historic trends enabled adjustment of target percentages to be realistic
- Clear visibility of issues with test equipment/labor



Use Cases

Resource Metrics for Engineering Lab:

➤ Benefits

- Improved response time in addressing operational issues
- Eliminated many whiteboards for daily briefing
- Ability to customize/configure the displays as per requirements is a significant benefit
- An estimated cost savings of \$45,000 per year

“It is visually pleasant and has been strongly embraced by our department”



Use Cases

MERITOR Daily OEE											
Site	Lab	Previous Stop Date		Running / Iterations							
										383,949 70,680 Total Achievable	
Target											
≥450	N/A	≥420	≤50	≤75	≤25	≤24	≤40	≤200	≤30	70%	
Actual											
Total Running Hours	Layered Running Hours	Core Running Hours	Parts Hours	Tech Manpower Hours	TE Manpower Hours	Customer Decision Hours	Set Up Hours	No Project Hours	All Other Hours	-115%	
462,469	78,519	383,949	70,323	70,819	18,239	15,222	26,076	223,052	114,381		
Total Running Stands	Layered Stands	Core Stands	Parts Stands	Tech Stands	TE Stands	Customer Decision Stands	Set Up Stands	No Project Stands	All Other Stands		
121	29	92	65	83	58	65	84	83	6,438		
Resource	Resource	Resource	Resource	Resource	Resource	Resource	Resource	Resource	Resource	Resource	-984%
2K-Dyno	75HP-1	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	2K-Dyno	
4-Square	75HP-2	4-Square	4-Square	4-Square	4-Square	4-Square	4-Square	4-Square	4-Square	4-Square	
4-Square Dyno	Chamber-3	4-Square Dyno	6-Square	4-Square Dyno	6-Square	6-Square	4-Square Dyno	6-Square	4-Square Dyno	4-Square Dyno	
6-Square	CL-12	6-Square	580-Dyno	6-Square	580-Dyno	580-Dyno	6-Square	580-Dyno	6-Square	6-Square	
75HP-1	CL-20	580-Dyno	Axle Chucker	580-Dyno	700-Dyno	Axle Chucker	580-Dyno	Axle Dyno	580-Dyno	580-Dyno	
75HP-2	CL-22	700-Dyno	Axle Dyno	700-Dyno	Axle Chucker	Axle Dyno	700-Dyno	BC-1	700-Dyno	700-Dyno	
580-Dyno	CRR-7	800-Dyno	BC-1	800-Dyno	Axle Chucker Fatigue	BC-1	800-Dyno	BC-2	800-Dyno	800-Dyno	
700-Dyno	DualHub-1	Axle Chucker	BC-2	Axle Chucker	BC-1	BC-2	Axle Chucker	BC-3	Axle Chucker	Axle Chucker	
800-Dyno	Flexible Rig	Axle Chucker Fatigue	BC-3	Axle Chucker Fatigue	BC-2	CRR	Axle Chucker Fatigue	Brake Dyno	Axle Chucker Fatigue	Axle Chucker Fatigue	
Axle Chucker	Rig-7	CRR	CRR	CRR	BC-2	CRR	Axle Chucker Fatigue	Chamber-1	Axle Chucker Fatigue	Axle Chucker Fatigue	
Axle Chucker Fatigue	Rotary-5	Axle Dyno	CRR-1	Axle Dyno	BC-3	CRR-1	Axle Dyno	Chamber-2	Axle Dyno	Axle Dyno	
	Slack Stand	BC-1	CRR-2	BC-1	CRR	CRR-2	BC-1	CRR	BC-1	BC-1	



Use Cases

Supplier Scorecards:

Dashboard to analyze supplier performance based on spend, savings, delivery, quality and diversity metrics

➤ Before

- No window into supplier delivery data
- Very manual process to evaluate supplier performance
- Low confidence in the data

➤ Benefits

- New concept of scorecard for suppliers
- Increased data literacy
- Global process standardization



Use Cases

Supplier Scorecards:

➤ Benefits

- Holistic view of supplier performance across the globe.
- Reinforced the need for proper updates related to shipments in source system
- Opportunity to review the scoring mechanism
- Automated generation of monthly supplier scorecard PDF (about 600)
- Opportunity of cost savings by selecting the right supplier

Use Cases

Fiscal Month: 2020-JAN

Test Supplier

Print to PDF

Final Grade

Final Grade

A 97.5%

Grade 5

Total Points Earned

97.5 / 100

Points Possible

Cost Reduction Metrics

Cost Reduction Grade: **B** 2.8%

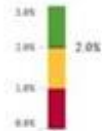
Cost Reduction %

Estimated Savings \$ of

199,10K

Rating 12 Mo Spent \$

Cost Reduction %



Delivery Metrics

OTIF Grade: **B** 83.3%

OTIF %

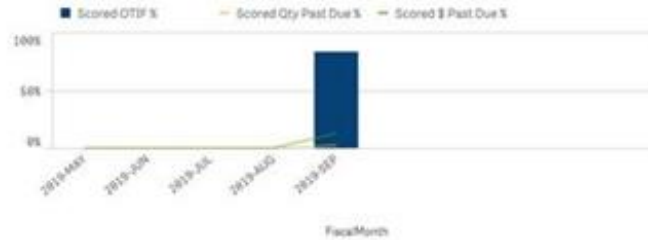
Past Due Qty Grade: **A** 2.5%

Past Due %

Past Due \$ Grade: **D** 6.7%

Past Due %

Scored Delivery Metrics



Quality Metrics

OTIF Grade: **A** 97.5%

Grade 5

Rejected: **5**

Occurrences

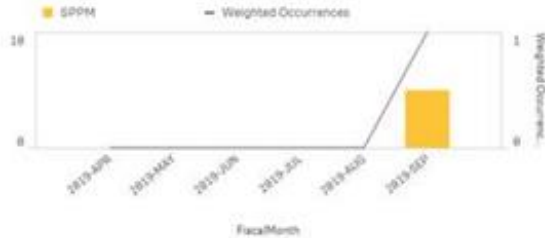
Occurrences Grade: **A** 1

Weighted Occurrence

Occurrences: **1**

Occurrences

Weighted Quality Metrics



Other Metrics

Contract Status: **On Contract**

Subjective Points: **7.5**

Non-Scored Metrics

Rolling 12 Month Spend (USD): **10K**

Lead Payment Terms: **Not Applicable**

Diversity Type: **-**

Primary Part Commodity: **Not Applicable**



Use Cases



Analytics in Digital Transformation



Rough Terrain Crane Axle

Analytics in Digital Transformation / IIoT

Use Cases:

- **Shop floor display boards**
 - Combination of Qlik dashboards and Mashup
 - Display has shop floor data, news/announcements, notifications, safety instructions etc.
- **End of Assembly Line product validation (PoC)**
 - Qlik dashboard for end of assembly line display where operator can enter/scan the part number and check if the part passed torque and angle validation
 - Quick decision making for sorting good and bad parts
 - Also provides trend of torque/angle/leak failure



Q & A

Khuzema Tikiwala

[in https://www.linkedin.com/in/khuzema-tikiwala](https://www.linkedin.com/in/khuzema-tikiwala)





Thursday, March 12, 2020 | Metro Detroit

Thank you for attending!

We value your feedback!
Please rate your speaker in
the session details in the
Schedule.

A screenshot of a mobile application interface for a session. At the top, it says "Track 1" in white text on a dark grey background. Below that, a calendar icon is followed by "Thur March 12, 10:30am - 11:15am". A location pin icon is followed by "Salon C". The main content area is white and contains six icons in a 2x3 grid: a bookmark icon labeled "Bookmark", a pencil icon labeled "Notes", a star icon labeled "Feedback", a checkmark in a blue circle labeled "Scanned", a location pin icon labeled "Show Map", and a large black upward-pointing arrow. Below the grid is a red button with white text that says "Data & Analytics Use Cases". At the bottom, there is a section titled "About" with the text "This session reviews our in-progress corporate".

Hosted by:

