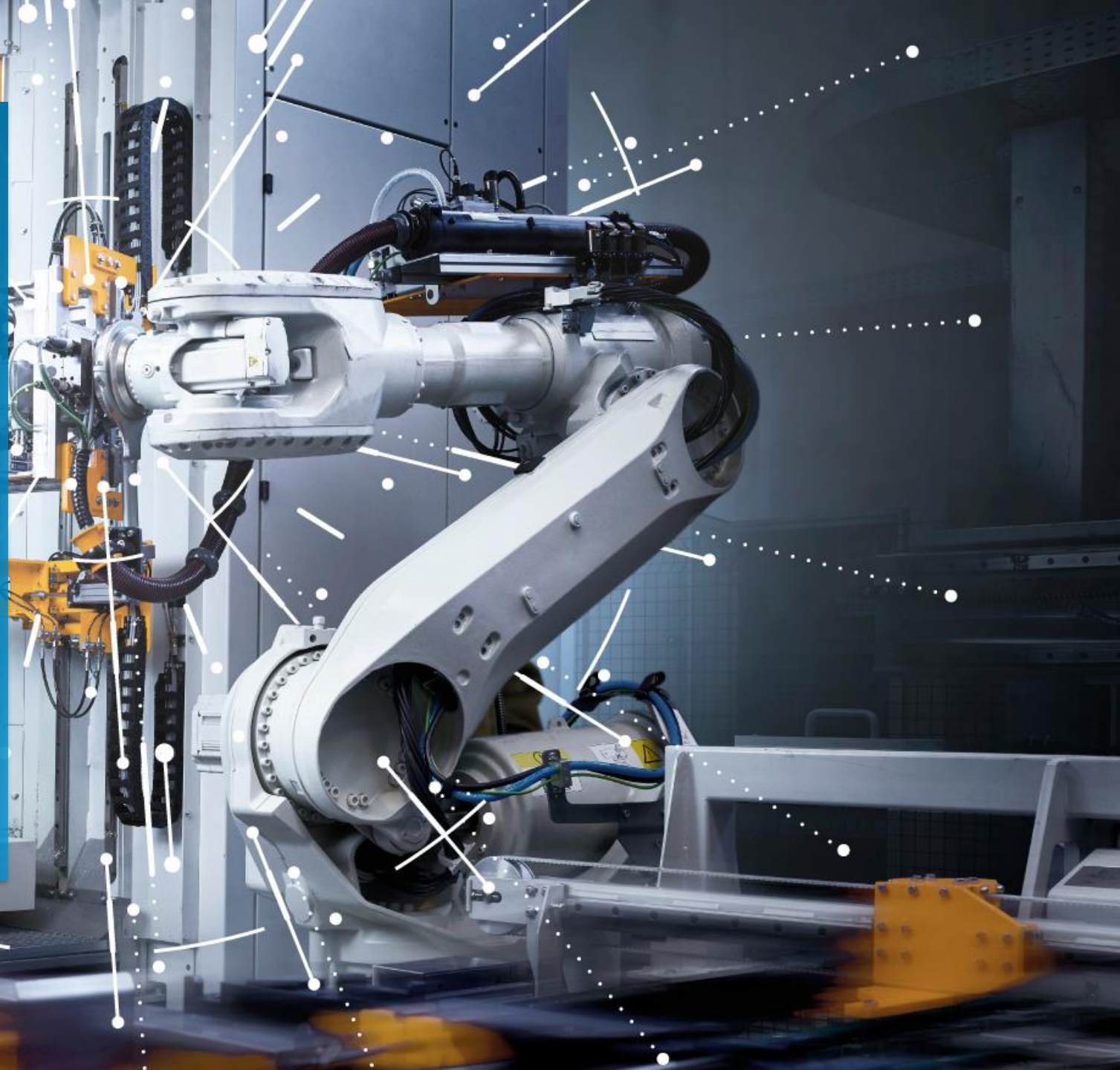


flex.

Waters Continuous Improvement Update - 2021

03 Mar 2021



2021 Overall Continuous Improvement Update

Closed
In Progress

Continuous Improvement Plan – Focus Areas		Objective/Goal	Responsible	Jan-Mar	Apr-Jun	Jul- Sep	Oct - Dec
Quality	1. Yield Improvement – Soft failures	Focus top 2 failures (Soft failures)	Joel / Hua Zhen	Comm Failure	FPY for QSM+	FPY for QSM+	-
	2. Yield Improvement – Hard failures	Focus on top 2 failures (Hard failures)	KS Chua	-	-	-	-
Enhancement	1. eDHR	Increased process robustness	Aldwin	Alliance	Pumps	TUV Detectors	PDA Detectors Plan
	2. Spares serial number traceability to PO.	Enhanced Baan - for SN scanning	Walter Chai	-	-	-	-
	3. CR - Sheet metal Value Engineering.	Sheet metal CR	Amy	-	-	-	-
	4. CR - PCBA Value Engineering.	PCBA CR	Amy	-	-	-	-
4M	1. Competency Check	ASP/TSP scrub, Operator compliance, PM/CAL,5S	Aldwin / Gary	186001525 186269506 186269505	186015080 186015031	186015033 186015032	186017002 WAT207000 186001515 186002487 186002998
	2. Capacity review & enhancement.	Submit Overall capacity (incl. testers capacity) update for FY22	Amy / Aldwin	186248900	-	-	-
	3. Testers upgrade	Refurbishment of test equipment	Hua Zhen/Joel	Plan -	Alliance FT (8x)	Alliance FT (8x)	-
NPI	1. Arc FTN remote training & Layout	Successful transfer of Arc FTN	Natarajan/Gary	Plan	Plan	-	-
	2. Arc Premier MR	Achieve DTS for Arc	Aldwin	Plan	-	-	-
	3. Arc HPLC transfer	Successful transfer of Arc HPLC	Gary	-	-	Plan	Plan

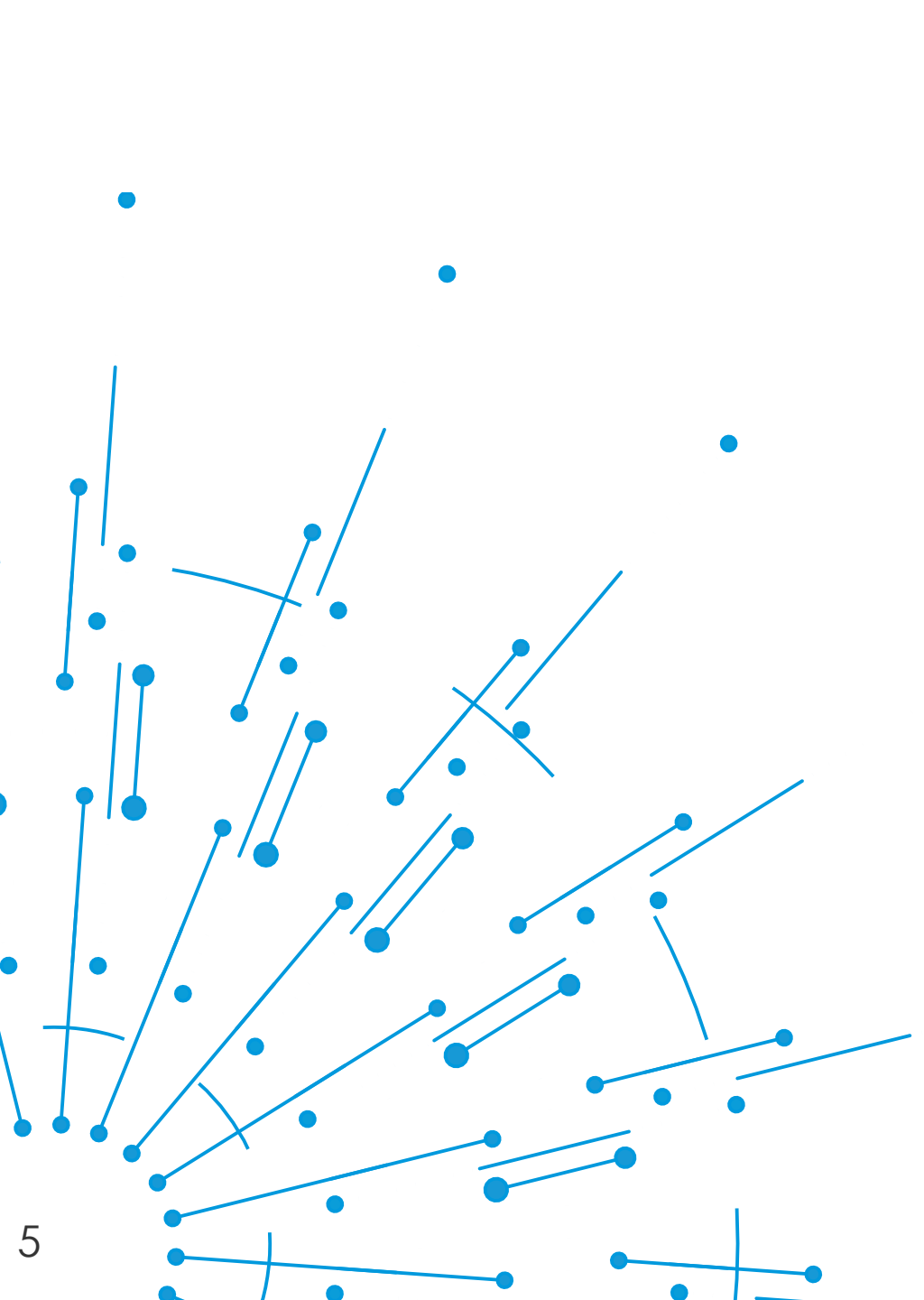
Goal and Objective

1. To achieve FPY for Detector PDA and QSM Plus Family
 - Detector PDA equal and greater 77.44%
 - QSM+ equal and greater 52.48 %
2. The approach is to optimize the test coverage through process , consumables and test enhancements. It is a conjunction efforts to work between Milford, WPPL and Flex.
3. Flex is to plot out the Pareto Charts for Detector PDA and QSM Plus Family across all the failures reported in Year 2020. Flex is to fill up all the actions taken and efforts in the past 1 year and so the upcoming as well as on going activities for yield improvement.
4. Milford and WPPL team are to provide more technical advice and actions in term of test software and specification, test and pre-inspection methods as well as the control of test samples / consumables to ensure test coverage are fully optimized and enhanced.

FPY Improvement Summary

Model	Target 2021	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Item	Progress
Alliance	84.25 %	91.95 %				NA	NA
QSM+	52.48 %	63.50%				Test Flow Rate Accuracy 0.5ml/min	4M Analysis and Data collection in progress
						Test Static Leak Decay Vent Valve to Filter/Mixer	4M Analysis and Data collection in progress
						Test Seal Wash Pump Prime/Flow	4M Analysis and Data collection in progress
BSM	50.70 %	26.32				NA	NA
PDA Detectors	77.44 %	82.95%				Communication Failure	Completed 600 data points on all 6x Testers (EVALS20015 closed) - TE82882-9, 10, 14 showing better yield - TE82882-8, 11, 13 showing low yield Eric Turner increased data base for affected 3x testers TE82882-8, 11, 13 . - Relay Box installed - Continuous monitor Completed 120 data points on 3x Testers (EVALS20033 closed)
TUV Detectors	96.56 %	98.39 %				NA	NA
Pumps	99.85 %	100.00%				NA	NA

□ For Q12001 Yield as of Jan'21



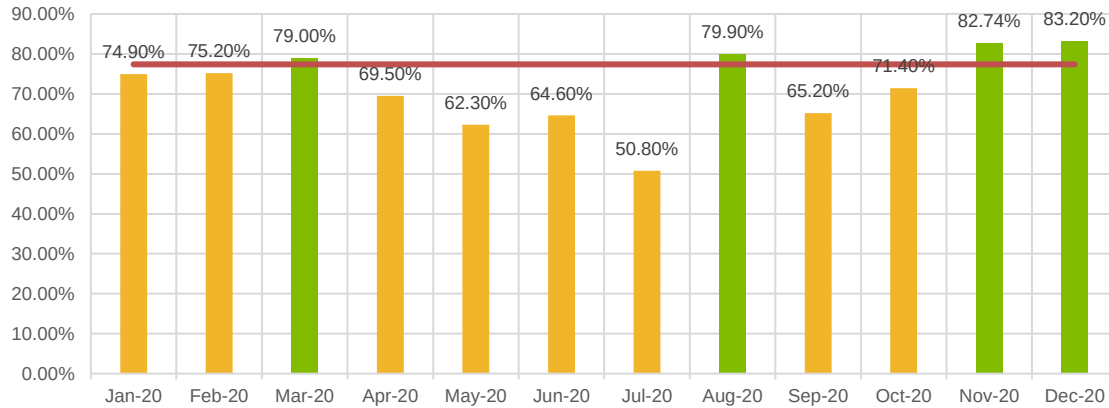
PDA Detectors –

Yield Improvement

PDA Detectors – Yield Improvement

In-progress

PDA Detectors Yield %



	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
PDA (Actual)	74.90%	75.20%	79.00%	69.50%	62.30%	64.60%	50.80%	79.90%	65.20%	71.40%	82.74%	83.20%
PDA Target	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%	77.40%

PDA (Actual) PDA Target

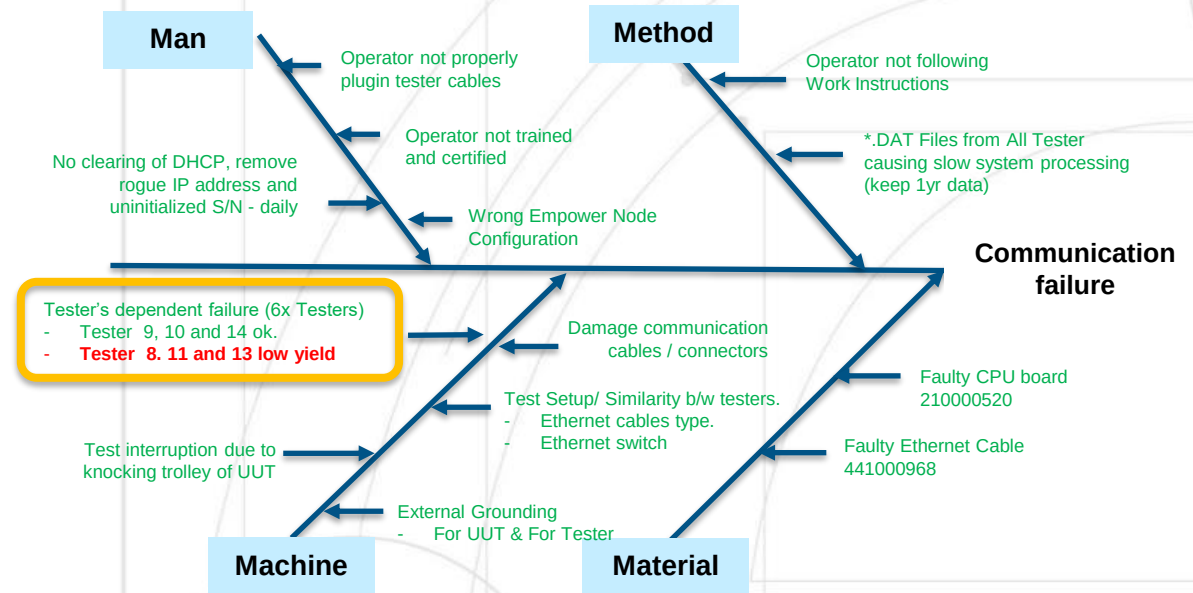
Target Sheet

Communication Failure % (Month wise)

Target Sheet		Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20	Aug '20	Sep '20	Oct '20	Nov '20	Dec '20	Jan '21
Comm Failure %	Target	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
	Actual	19.0%	16.4%	25.1%	26.6%	14.6%	34.5%	10.6%	27.2%	21.9%	6.27%	8.00%	8.50%

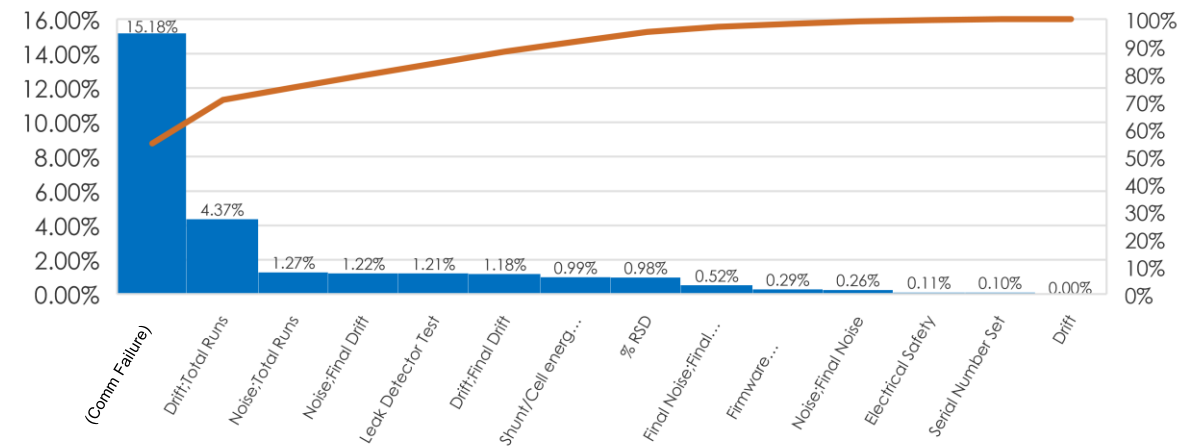
Communication Failure Tester Wise (600 manual data points collection)

TE82882	TE82882-8	TE82882-13	TE82882-11	TE82882-10	TE82882-14	TE82882-9	Total
Tested	100	100	100	100	100	100	600
Loss Comm	45	43	42	20	12	9	171
Failure %	45%	43%	42%	20%	12%	9%	29%



Pareto Chart

PDA Detectors Pareto Jan'20-May'20



PDA Detectors – Failure Mode

Failure Modes	PDA Detectors
Communication	15.18%
Drift; Total Runs	4.37%
Noise; Total Runs	1.27%
Noise; Final Drift	1.22%
Leak Detect Test	1.21%
Drift; Final Drift	1.18%
Shunt / cell energy failed	0.99%
%RSD	0.98%
Final Noise	0.52%
Firmware	0.29%
Noise; Final Noise	0.16%
Electrical Safety	0.11%
Serial Number Set	0.10%
Drift	0.00%
Total failure % contributed	27.58%

- Yield from Jan'20-May'20

PDA Detectors – Yield Improvement

Total Units Tested Data : as of 04 Dec 2020

Tester	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug-20	01 Sep 2020 to 23 Sep 2020	24 Sep 2020 to 30 Sep 2020	01 Oct 2020 to 12 Oct 2020	13 Oct 2020 to 31 Oct 2020	Nov-20	Dec-20
TE82882-8	60	67	46	19	12	44	48	25	31	7	3	35	19	67
TE82882-9	116	107	108	35	28	83	25	85	51	28	64	96	156	170
TE82882-10	12	27	23	23	79	15	3	6	21	5	26	25	49	32
TE82882-11	0	3	11	41	40	0	49	40	27	15	17	43	60	35
TE82882-13	44	65	24	27	37	1	55	9	19	7	13	30	53	35
TE82882-14	94	140	118	60	34	69	20	116	56	28	66	107	173	148
TESTED	326	409	330	205	230	212	200	281	205	90	189	336	510	487

Total Units Loss Commn :

Tester	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug-20	01 Sep 2020 to 23 Sep 2020	24 Sep 2020 to 30 Sep 2020	01 Oct 2020 to 12 Oct 2020	13 Oct 2020 to 31 Oct 2020	Nov-20	Dec-20
TE82882-8	7	8	10	1	1	17	23	5	16	7	3	10	3	1
TE82882-9	13	17	8	2	4	7	1	6	0	4	9	6	3	8
TE82882-10	5	5	9	8	8	2	3	2	10	1	8	7	6	10
TE82882-11	0	1	2	24	17	0	17	9	3	5	3	14	5	14
TE82882-13	14	20	5	8	15	0	24	5	13	4	5	13	6	8
TE82882-14	11	14	10	1	9	4	1	4	6	8	9	13	9	3
TESTED	50	65	44	44	54	30	69	31	48	29	37	63	32	44

Communication Failure rate % :

Tester	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug-20	01 Sep 2020 to 23 Sep 2020	24 Sep 2020 to 30 Sep 2020	01 Oct 2020 to 12 Oct 2020	13 Oct 2020 to 31 Oct 2020	Nov-20	Dec-20
TE82882-8	11.67%	11.94%	21.74%	5.26%	8.33%	38.64%	47.92%	20.00%	51.61%	100.00%	100.00%	28.57%	15.79%	1.49%
TE82882-9	11.21%	15.89%	7.41%	5.71%	14.29%	8.43%	4.00%	7.06%	0.00%	14.29%	14.06%	6.25%	1.92%	4.71%
TE82882-10	41.67%	18.52%	39.13%	34.78%	10.13%	13.33%	100.00%	33.33%	47.62%	20.00%	30.77%	28.00%	12.24%	31.25%
TE82882-11	#DIV/0!	33.33%	18.18%	58.54%	42.50%	#DIV/0!	34.69%	22.50%	11.11%	33.33%	17.65%	32.56%	8.33%	40.00%
TE82882-13	31.82%	30.77%	20.83%	29.63%	40.54%	0.00%	43.64%	55.56%	68.42%	57.14%	38.46%	43.33%	11.32%	22.86%
TE82882-14	11.70%	10.00%	8.47%	1.67%	26.47%	5.80%	5.00%	3.45%	10.71%	28.57%	13.64%	12.15%	5.20%	2.03%
TESTED	15.34%	15.89%	13.33%	21.46%	23.48%	14.15%	34.50%	11.03%	23.41%	32.22%	19.58%	18.75%	6.27%	9.03%
FPY (Loss Comm)	84.66%	84.11%	86.67%	78.54%	76.52%	85.85%	65.50%	88.97%	76.59%	67.78%	80.42%	81.25%	93.73%	90.97%
Actions Taken									Data base increase for testers 8,11 and 13 on 26 Aug 20	Observed Relay issue on -8. Observed Header on pos-3 for tester-13.	Observed Relay issue on -8 : Connected directly to the LAN Card bypassing the switching relay box on 13 Oct 20. Observed Header on pos-3 for tester-13. : Replaced header of position 3 on 13 oct 2020		No action done	Commission of New Relay – In progress

PDA Detectors – Yield Improvement

No	Failure	% Fail 2019	% Improve 2020	Actions & Results	
				Flex	PIC / Date
1	Communication Failure	10.26%	8.00%	Tester ID: - TE82882-8 ,TE82882-9, TE82882-10, TE82882-11, TE82882-13, TE82882-14 Communication Failure: - Removed old *DAT Files from 2016 to 2019. Implemented. - Review Ethernet\RS232 interface headers. Implemented. - Mount separating fence at TE82882-13. Implemented. - Removed Empower Node with conflict. Implemented. - Test Operator daily clearing of DHCP, remove rogue IP and initialize the SN. Implemented. - EVALS20015 To collect 100 data points for TE82882- 8, 9, 10, 11, 13 and 14. Completed total 600 data points on 29 Jul 20 - Milford Team had remote access to the PDA Final Testers - made adjustment on database table on TE82882-8 - clear rouge instrument TE82882-11 - Milford Team had remote access to the PDA Final Testers - made adjustment on database table on TE82882-13 - EVALS20033 To collect 120 data (min. 10 data points per port per tester to TE82882-8, TE82882-11, TE82882-13): - TE82882-8 - Relay box caused high loss comm; Going to replace relay box - Tester can use direct LAN cable to continue test - TE82882-11 - FPY improved from 58% to 76% after database adjustment. - Checking on relay box and cables to see if can improve further for these testers. - TE2882-13 - Port 3 LAN cable caused high loss comm. Fixed by replacing LAN cable. - Data collection completed	Joel, David / 26 Dec 19 Joel / 27 Mar 20 Joel, Aldwin / 09 Mar 20 Joel, David / 06 Mar 20 Joel, Shamsul / 06 Mar 20 Joel / 24 Apr 20 Joel, HZL, Eric Turner / 25 Aug 20 Joel, HZL, Eric Turner / 17 Sep 20 Joel, HZL, Eric Turner / 30 Oct 20 extend to Nov'20

PDA Detectors – Yield Improvement

No	Failure	% Fail 2019	% Improve 2020	Actions & Results	
				Flex	PIC / Date
1	Communication Failure	10.26%	8.00%	<u>Tester ID:</u> TE82882-8 ,TE82882-9, TE82882-10, TE82882-11, TE82882-13, TE82882-14 <u>Communication Failure:</u> - re-image of TE82882-11 completed and monitoring in-progress	Joel / Jan 21

PDA Detectors – Yield Improvement

Monitoring in 2020 – Communication Failure

Month	Total Unit Tested	Communication (failure%)
		2020 Ref rate 8.00%
Feb -2020	379	14.78%
Mar -2020	305	12.13%
Apr -2020	187	19.25%
May -2020	199	17.09%
Jun -2020	178	11.24%
Jul -2020	248	29.03%
Aug -2020	254	9.84%
Sep -2020	305	22.95%
Oct -2020	489	18.81%
Nov -2020	492	6.30%
Dec -2020	463	8.00%

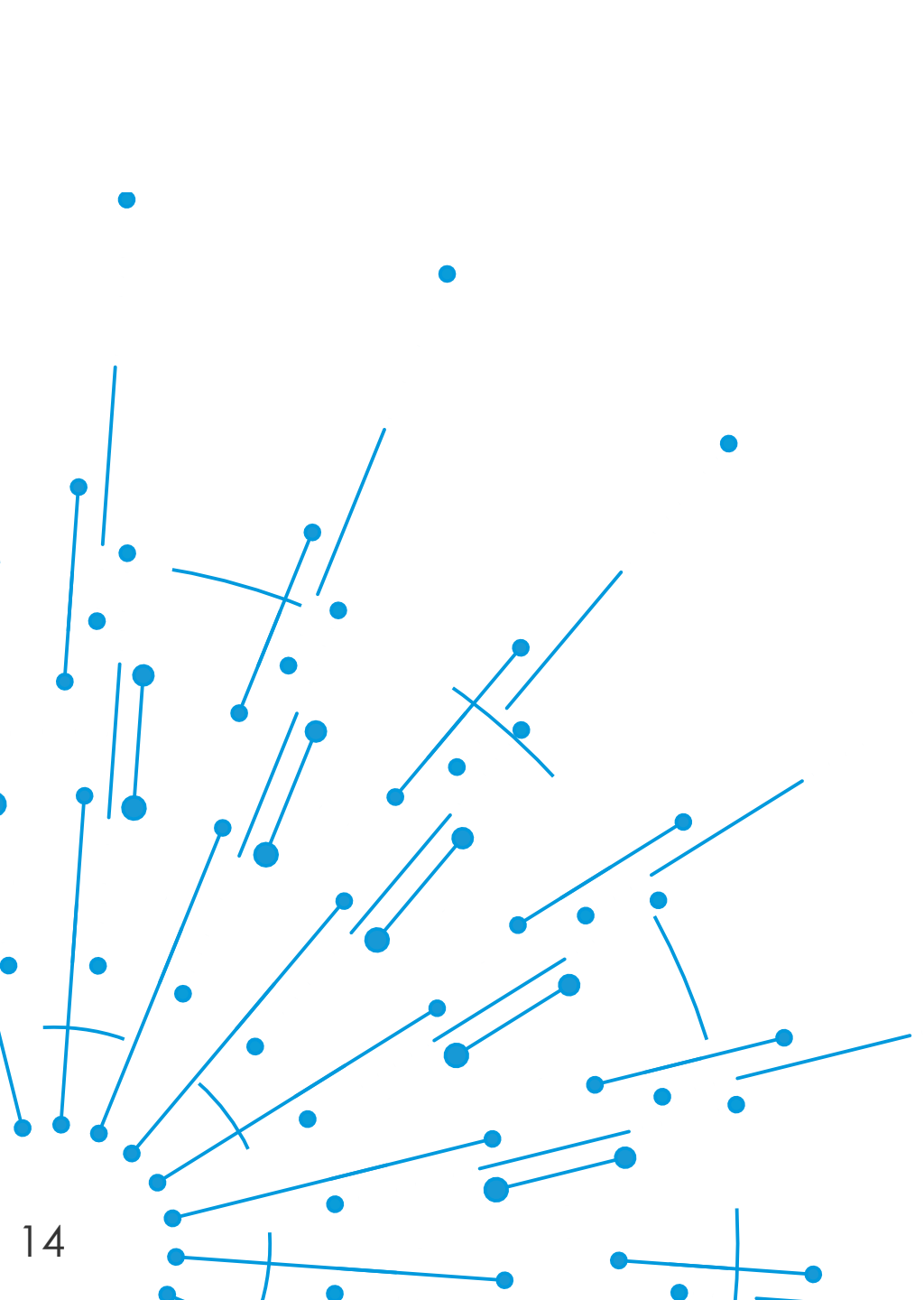
PDA Detectors – Yield Improvement

Monitoring in 2021 – Communication Failure

Month	Total Unit Tested	Communication (failure%)
		2020 Ref rate 8.00%
Jan -2021	129	8.50%

PDA Detectors – Communication Failure

Jan 2021	Detector PDA 2020 Ref failure rate – 8.00% Achieved – in progress (Jan'20)	Improvement			
PIC	Joel, Aldwin				
Purpose					
- Focus on communication failure - Testers TE82882-8, 11 and 13 contribute to low yield.					
Progress		Project Status			
- TE82882-8 tried new relay box but still showing not able to communicate between test software and control switch driver. - TE82882-8, 11 and 13 continue monitoring		Q1	Q2	Q3	Q4
		Continue monitoring			
Next Steps		Risks & Issues			
TE82882-8 relay box replaced, configuration in progress					



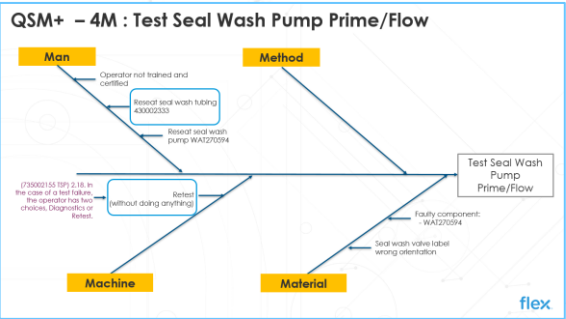
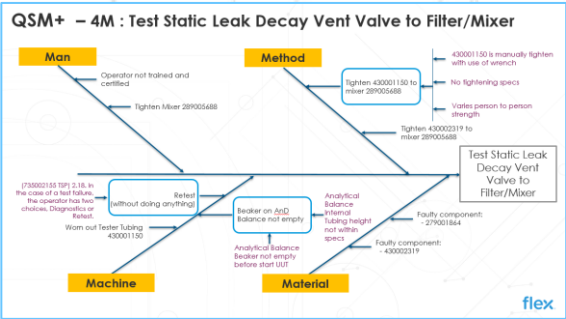
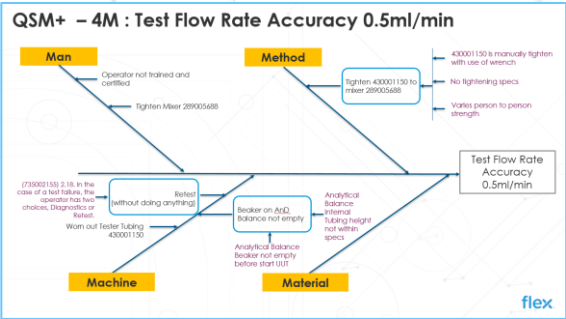
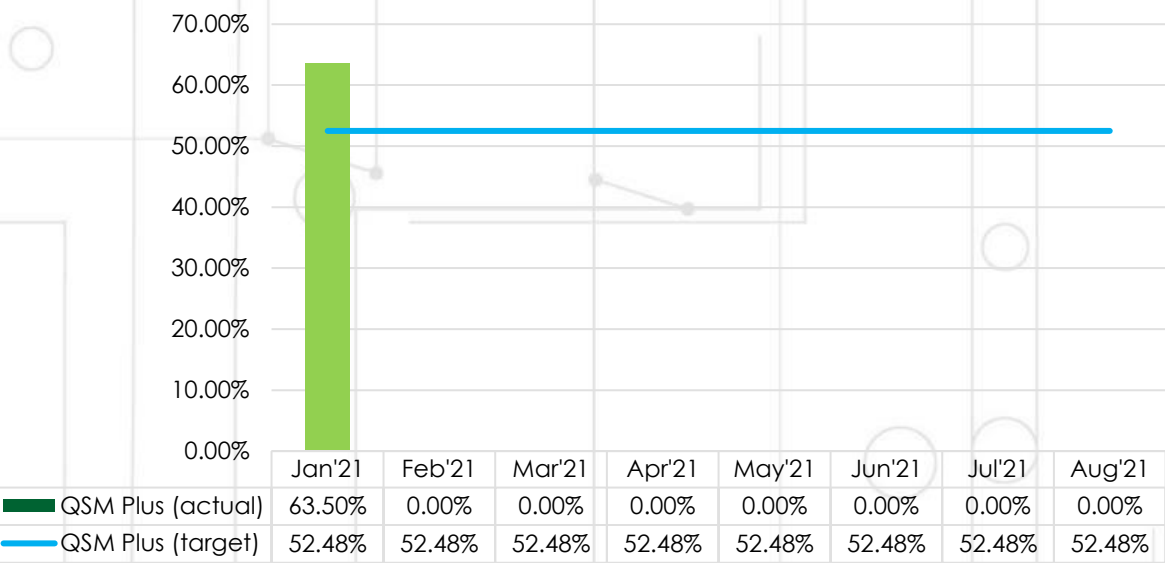
QSM Plus –

Yield Improvement

QSM+ – Yield Improvement

In-progress

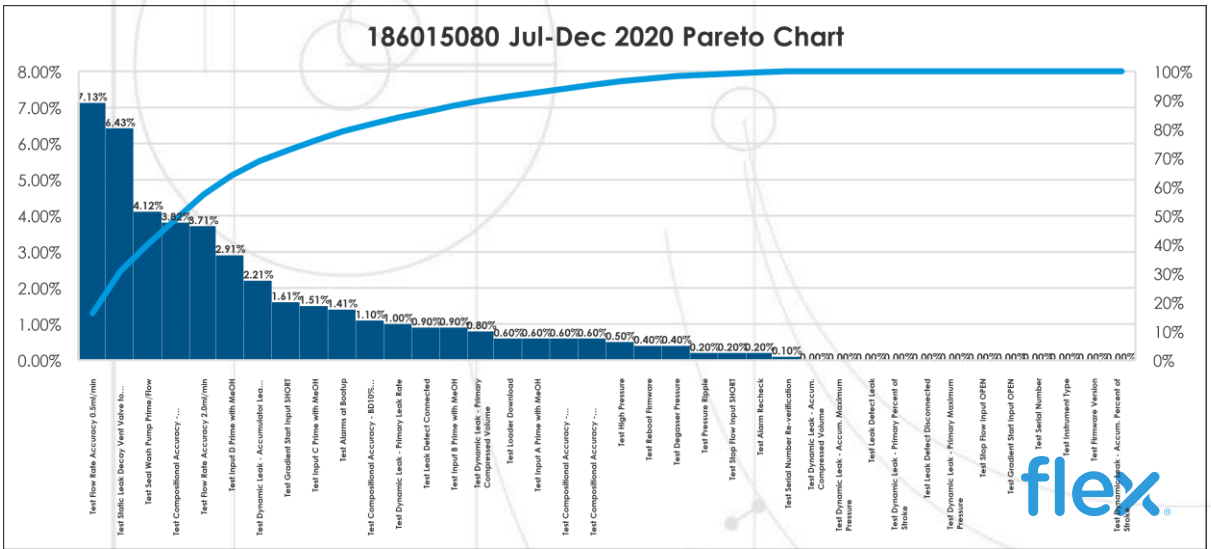
BSM - QSM Plus Yield %



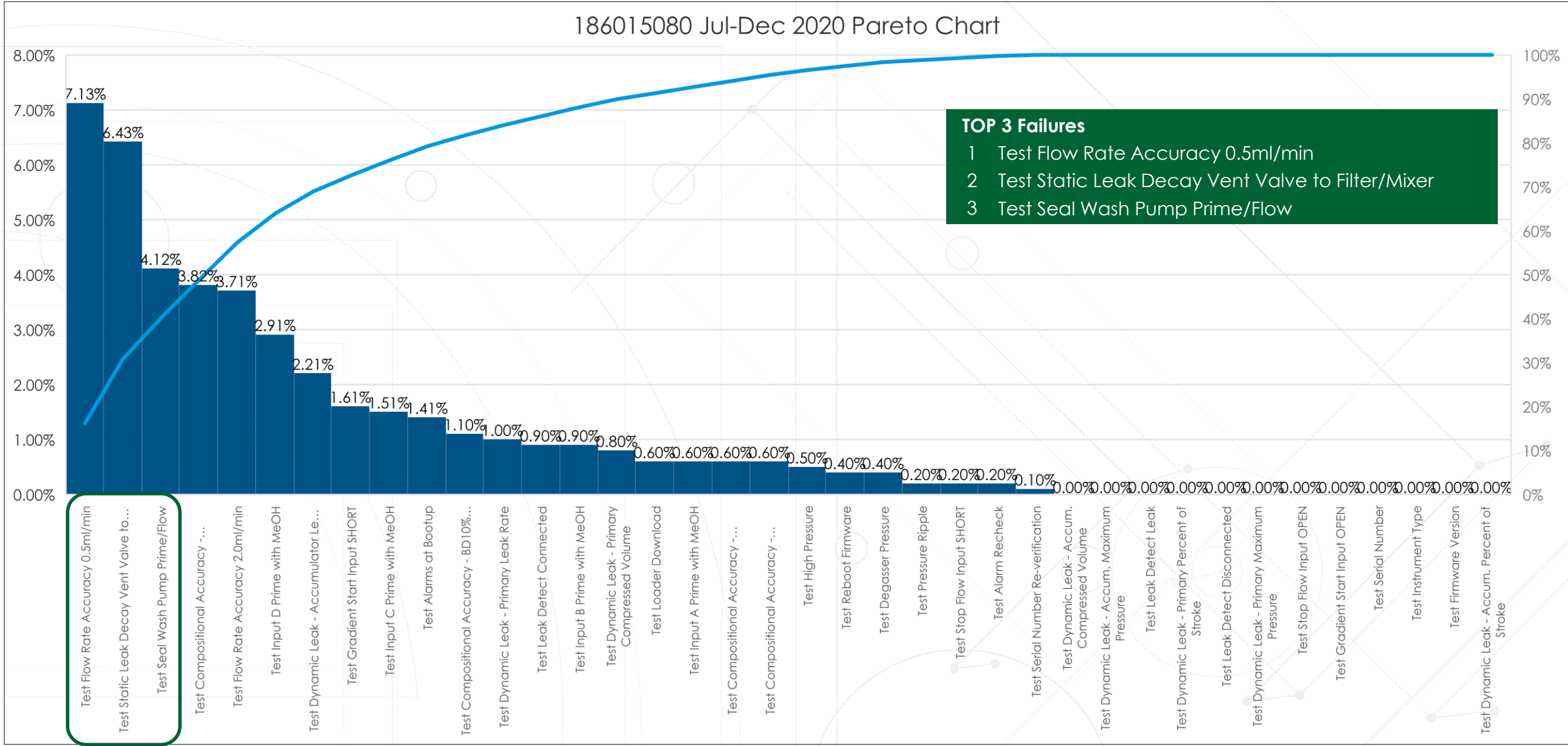
Target Sheet

Target Sheet		Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21
Test Flow Rate Accuracy 0.5ml/min	Target	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13
	Actual	11.54							
Target Sheet		Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21
Test Static Leak Decay Vent Valve to Filter/Mixer	Target	6.43	6.43	6.43	6.43	6.43	6.43	6.43	6.43
	Actual	3.21							
Target Sheet		Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21
Test Seal Wash Pump Prime/Flow	Target	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12
	Actual	3.85							

Pareto Chart



QSM+ – FPY 2020 Pareto

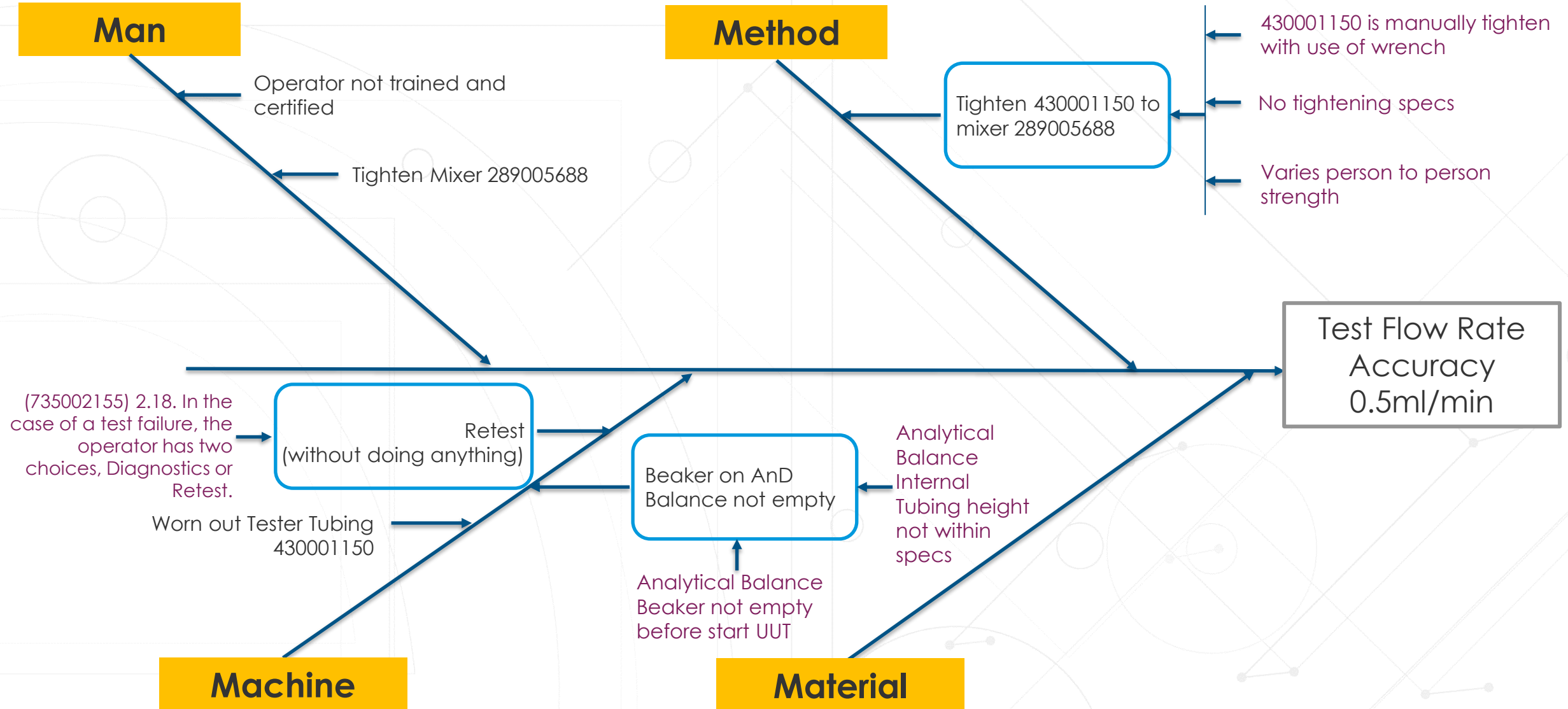


QSM+ – Failure Mode

Failure Modes	186015080
Test Flow Rate Accuracy 0.5ml/min	7.13%
Test Static Leak Decay Vent Valve to Filter/Mixer	6.43%
Test Seal Wash Pump Prime/Flow	4.12%
Test Compositional Accuracy - AC90%AU	3.82%
Test Flow Rate Accuracy 2.0ml/min	3.71%
Test Input D Prime with MeOH	2.91%
Test Dynamic Leak - Accumulator Leak Rate	2.21%
Test Gradient Start Input SHORT	1.61%
Test Input C Prime with MeOH	1.51%
Test Alarms at Bootup	1.41%
Test Compositional Accuracy - BD10% AU	1.10%
Test Dynamic Leak - Primary Leak Rate	1.00%
Test Input B Prime with MeOH	0.90%
Test Leak Detect Connected	0.90%
Test Dynamic Leak – Primary Compressed Volume	0.80%
Test Compositional Accuracy - AC10%AU	0.60%
Test Compositional Accuracy - BD90%AU	0.60%
Test Input A Prime with MeOH	0.60%
Test Loader Download	0.60%
Test High Pressure	0.50%
Test Degasser Pressure	0.40%
Test Reboot Firmware	0.40%
Test Pressure Ripple	0.20%
Test Alarm Recheck	0.20%
Test Stop Flow Input SHORT	0.20%
Test Serial Number Re-verification	0.10%
Test Electrical Safety	0.00%
Acquity QSM Final Test Overall Result	0.00%
Total failure % contributed	43.98%

- Yield from Jul'20-Dec'20

QSM+ – 4M : Test Flow Rate Accuracy 0.5ml/min



QSM+ – 4M : Test Flow Rate Accuracy 0.5ml/min

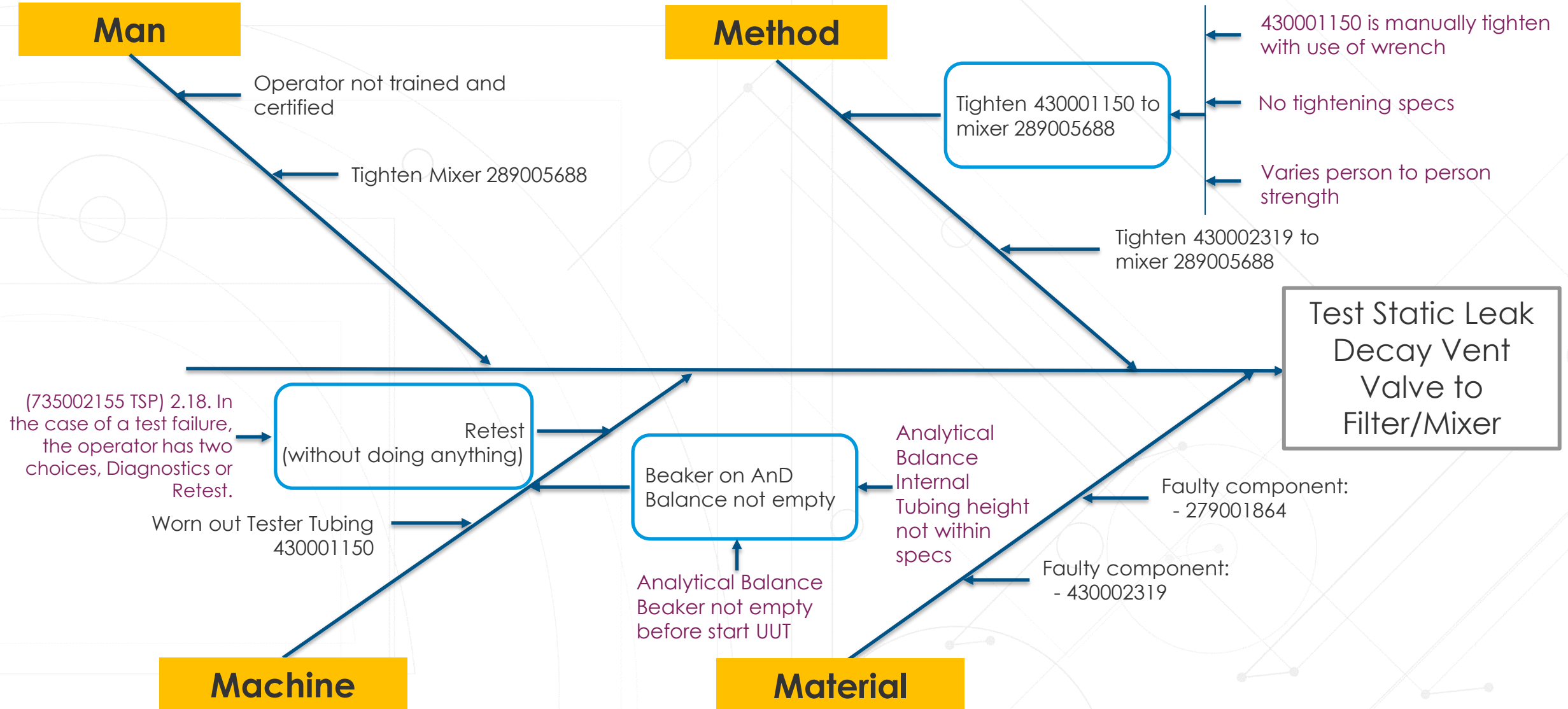
	Possible Causes	Verification	Possible cause (Y / N)	Proposed Actions
Man	Operator not trained and certified	Operators are trained and Certified before commence of work.	N	NA
Method	Tightening tubing (430001150) at Final Test	Verified connection of interface tubing from Tester to Mixer of UUT as per 735002155 TSP. No torque value specified when tighten tubing	Y	Monitoring in progress.
Material	NA	NA	NA	NA
Machine	Retest (without doing anything)	Verified Preventative Maintenance due labels on tester is within period.	Y	Monitoring in progress.
	AnD weigh balance not calibrated	Verified Calibration due label on AnD Balance is within period.	N	Monitoring in progress.
	AnD weigh balance beaker not empty	Verified Empty Beaker before start test for every unit	Y	Monitoring in progress.
	Worn out QSM interface tubing assembly 430001150	Verified tubing replaced every 2 weeks.	N	Monitoring in progress.

- Reference to event log data from Jul'20 to Dec'20

QSM+ – 4M : Test Flow Rate Accuracy 0.5ml/min

Failure Modes	186015080
Tightening tubing (430001150)	4.87 %
Retest (without doing anything)	1.63 %
Empty beaker not empty	0.45%
Replace tester tubing	0.18 %
Total failure % contributed	7.13 %

QSM+ – 4M : Test Static Leak Decay Vent Valve to Filter/Mixer



QSM+ – 4M : Test Static Leak Decay Vent Valve to Filter/Mixer

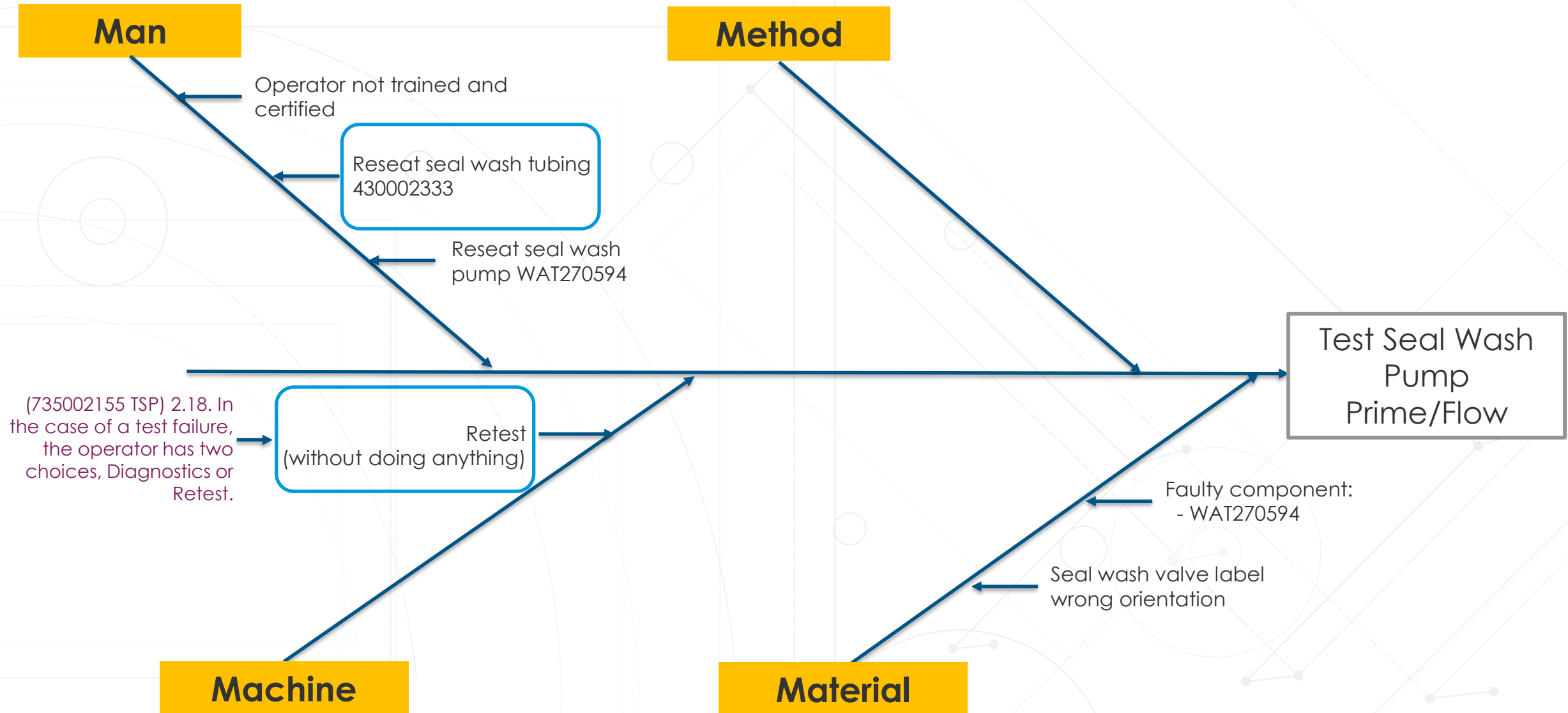
	Possible Causes	Verification	Possible Cause (Y / N)	Proposed Actions
Man	Operator not trained and certified	Operators are trained and Certified before commence of work.	N	NA
Method	Tightening tubing (430002319) at Chassis Assy	Verified tightening as per 279003870 ASP. Finger tight, mark fitting with marker and tighten ¾ turn using wrench.	N	NA
	Tightening tubing (430001150) at Final Test	Verified connection of interface tubing from Tester to Mixer of UUT as per 735002155 TSP. No torque value specified when tighten tubing	Y	Re-tighten
Material	NA	NA	NA	NA
Machine	Retest (without doing anything)	Verified Preventative Maintenance due labels on tester is within period.	Y	Monitoring in progress.
	Worn out QSM interface tubing assembly 430001150	Verified tubing replaced every 2 weeks.	N	Replace tester tubing

- Reference to event log data from Jul'20 to Dec'20

QSM+ – Test Static Leak Decay Vent Valve to Filter/Mixer

Failure Modes	186015080
Tightening tubing (430001150)	4.18 %
Retest (without doing anything)	1.39 %
Replace tester tubing	0.39 %
Tightening tubing (430002319)	0.15 %
Component Faulty	0.31 %
Total failure % contributed	6.43 %

QSM+ – 4M : Test Seal Wash Pump Prime/Flow



QSM+ – 4M : Test Seal Wash Pump Prime/Flow

	Possible Causes	Verification	Possible Cause (Y / N)	Proposed Actions
Man	Operator not trained and certified	Operators are trained and Certified before commence of work.	N	NA
	Poor assembly of seal wash tubing 430002333	Reseat seal wash tubing 430002333	N	Monitoring in progress.
	Poor assembly of seal wash pump WAT270594	Reseat seal wash pump WAT270594	N	Monitoring in progress.
Method	NA	NA	NA	NA
Material	Component Faulty WAT270594	Parts are check for cosmetics before use	N	Monitoring in progress.
	Seal wash valve label wrong orientation	Removed defective part	N	Monitoring in progress.
Machine	Retest (without doing anything)	Verified Preventative Maintenance due labels on tester is within period.	Y	Monitoring in progress.

- Reference to event log data from Jul'20 to Dec'20

QSM+ – Test Seal Wash Pump Prime/Flow

Failure Modes	186015080
Retest (without doing anything)	2.47 %
Reseat seal wash tubing 430002333	0.83 %
Component Faulty WAT270594	0.41 %
Reseat seal wash pump WAT270594	0.21 %
Seal wash valve label wrong orientation	0.21 %
Total failure % contributed	4.12 %

QSM+ – Yield Improvement

No	Failure	% Fail Jul'20- Dec'20	% Improve 2021	Actions & Results	
				Flex	PIC / Date
	Overall Failure	43.98 (Overall Failure Rate = 47.52)	40.44	<u>Tester ID:</u> • TE82943-11, TE82943-12, TE82943-13, TE82943-14, TE82943-15, TE82943-16, TE82943-17, TE8943-18	
1	Test Flow Rate Accuracy 0.5ml/min	7.13	5.70 (20 %)	• Monitoring	Aldwin, Joel / 16 Feb 21
2	Test Static Leak Decay Vent Valve to Filter/Mixer	6.43	5.14 (20 %)	• Monitoring	Aldwin, Joel / 16 Feb 21
3	Test Seal Wash Pump Prime/Flow	4.12	3.30 (20 %)	• Monitoring	Aldwin, Joel / 16 Feb 21

QSM+ – Yield Improvement

Test Flow Rate Accuracy 0.5ml/min - Monitoring

Month	Total Unit Tested	BSM, QSM Plus (failure%)
		Jul'20-Dec'20 Ref rate 7.13 %
Jan -2021	156	11.54 %
Feb -2021		

QSM+ – Yield Improvement

Test Static Leak Decay Vent Valve to Filter/Mixer - Monitoring

Month	Total Unit Tested	BSM, QSM Plus (failure%)
		Jul'20-Dec'20 Ref rate 6.43 %
Jan -2021	156	3.21 %
Feb -2021		

QSM+ – Yield Improvement

Test Seal Wash Pump Prime/Flow - Monitoring

Month	Total Unit Tested	BSM, QSM Plus (failure%)
		Jul'20-Dec'20 Ref rate 4.12 %
Jan -2021	156	3.85 %
Feb -2021		

QSM+ : Test Flow Rate Accuracy 0.5ml/min

Jan 2021	Jul'20-Dec'20 Ref rate 7.13 % Achieved – 11.54 % (Jan'21)	Improvement	To achieved by 5.70 %		
PIC	Aldwin, Joel				
Purpose					
Progress		Project Status			
Monitoring in progress		Q1	Q2	Q3	Q4
		Monitoring In progress (4M Analysis, Data Collection)			
Next Steps		Risks & Issues			

QSM+ : Test Static Leak Decay Vent Valve to Filter/Mixer

Jan 2021	Jul'20-Dec'20 Ref rate 6.43 % Achieved – 3.21 % (Jan'21)	Improvement	To achieved by 5.14 %		
PIC	Aldwin, Joel				
Purpose					
Progress		Project Status			
Monitoring in progress		Q1	Q2	Q3	Q4
		Monitoring In progress (4M Analysis, Data Collection)			
Next Steps		Risks & Issues			

QSM+ : Test Seal Wash Pump Prime/Flow - Monitoring

Jan 2021	Jul'20-Dec'20 Ref rate 4.12 % Achieved – 3.85 % (Jan'21)	Improvement	To achieved by 3.30 %		
PIC	Aldwin, Joel				
Purpose					
Progress		Project Status			
Monitoring in progress		Q1	Q2	Q3	Q4
		Monitoring In progress (4M Analysis, Data Collection)			
Next Steps		Risks & Issues			

Competency Check Update

Closed

In Progress

Date	Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21	Sep '21	Oct '21	Nov '21	Dec '21
Model	186001525	186269506 186269505	186248900	186015080	186299800	186015031	186015033	186015032	186017003	186017002	WAT207000 186001515	186002487 186002998

Observations

Sequence	0	0										
Labelling & Identification	0	0										
ASP/TSP Update	0	0										
Wear & Tear	0	0										
5S	0	0										

No.	Activity	Jan '20	Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20	Aug '20	Sep '20	Oct '20	Nov '20	Dec '20
BSM/QSM													
1	Enhancement of the eDHR matrix												
2	Testing of eDHR matrix in test server												
3	Deployment of eDHR to Production for trials												
4	Re-submission / Approval of Flex Change Request and WPPL PCN												
5	Communication and training												
6	Go Live eDHR for Alliance												
7	Removal of Alliance manual DHR												
8	Q Alert linkage to eDHR. (New)												
Alliance													
1	Alliance eDHR Project Kick Off Meeting with internal team.												
2	Identify requirements. Map details of manual DHR												
3	Creation of the eDHR matrix												
4	Testing of eDHR matrix in test server												
5	Communication and training												
6	Deployment of eDHR to Production for trials												

❑ BSM/QSM Plus eDHR Go Live on 20 Apr 20

❑ Alliance eDHR PCN approval by WPPL In-progress

No.	Activity	Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	Jul '21	Aug '21	Sep '21	Oct '21	Nov '21	Dec '21
Alliance													
7	Submission / Approval of Flex Change Request and WPPL PCN												
8	Go Live eDHR for Alliance												
9	Removal of Alliance manual DHR			Plan									
Pump (All models)													
1	eDHR Project Kick Off Meeting with internal team.		Plan										
2	Identify requirements. Map details of manual DHR		Plan										
3	Creation of the eDHR matrix			Plan									
4	Testing of eDHR matrix in test server			Plan									
5	Communication and training				Plan								
6	Deployment of eDHR to Production for trials				Plan	Plan	Plan						
7	Submission / Approval of Flex Change Request and WPPL PCN							Plan					
8	Go Live eDHR for Alliance								Plan				
9	Removal of manual DHR									Plan			
Detector(All models)													
1	eDHR Project Kick Off Meeting with internal team.					Plan							
2	Identify requirements. Map details of manual DHR					Plan							
3	Creation of the eDHR matrix						Plan						
4	Testing of eDHR matrix in test server						Plan						
5	Communication and training							Plan					
6	Deployment of eDHR to Production for trials							Plan	Plan	Plan			
7	Submission / Approval of Flex Change Request and WPPL PCN										Plan		
8	Go Live eDHR for Alliance											Plan	
9	Removal of manual DHR												Plan

flex.

Thank You

