Operation Analysis & Solutions

Reddington Holdings x USC Marshall Case Competition

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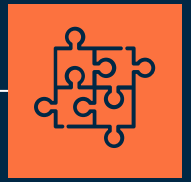
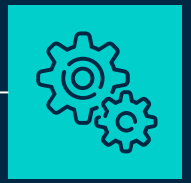
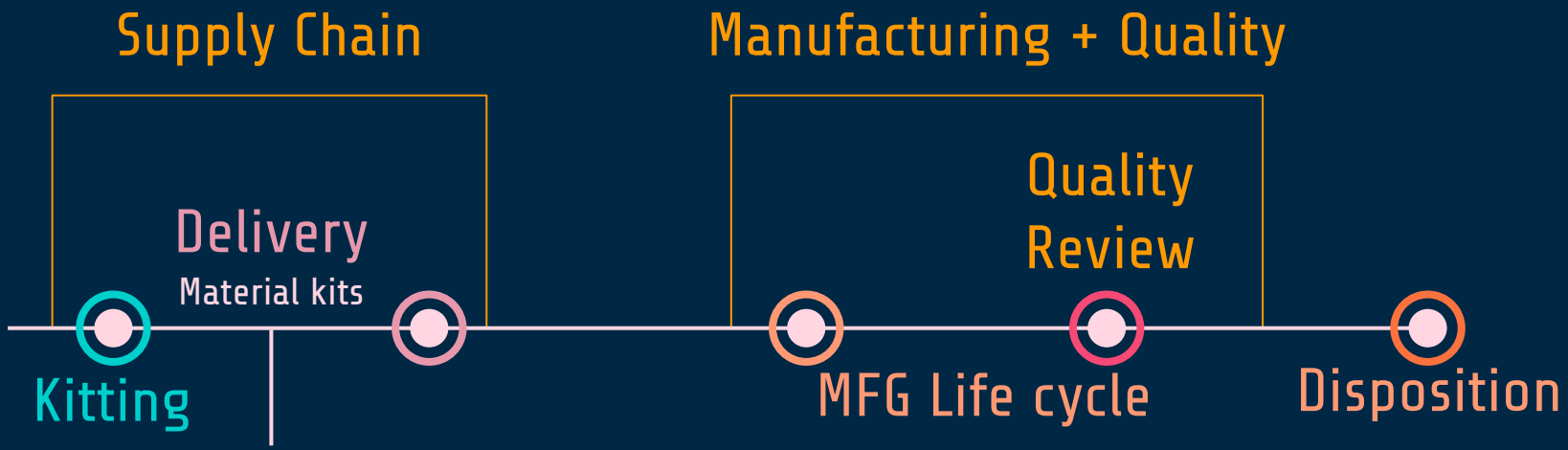




Client X – Products Flow

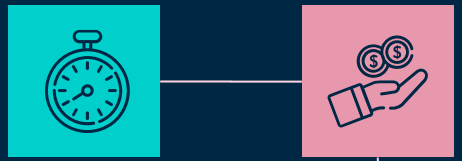


From warehouse to manufacturing suits requested by departments

All records must be reviewed by the Quality organization for batch disposition.

SUPPLY CHAIN SOLUTIONS

More Warehouses close to the locations



Prepare for busy seasons

Coordinate between departments

Produce in advance

SUPPLY CHAIN ANALYSIS

Deliver to(Bldg)	Count	Percentage of Late
Location 4	62	0.52
Location 3	11	0.50
Location 6	3	0.33
Location 1	629	0.28
Location 2	1485	0.23
Total	**2190**	**0.25**

539 miles

62 miles

20 miles

23 miles

Logit Regression Results

Dep. Variable:	Late	**No. Observations:**	2047
Model:	Logit	**Df Residuals:**	2045
Method:	MLE	**Df Model:**	1
Date:	Thu, 06 Apr 2023	**Pseudo R-squ.:**	0.006743
Time:	14:43:22	**Log-Likelihood:**	-1140.3
converged:	True	**LL-Null:**	-1148.1
Covariance Type:	nonrobust	**LLR p-value:**	8.328e-05

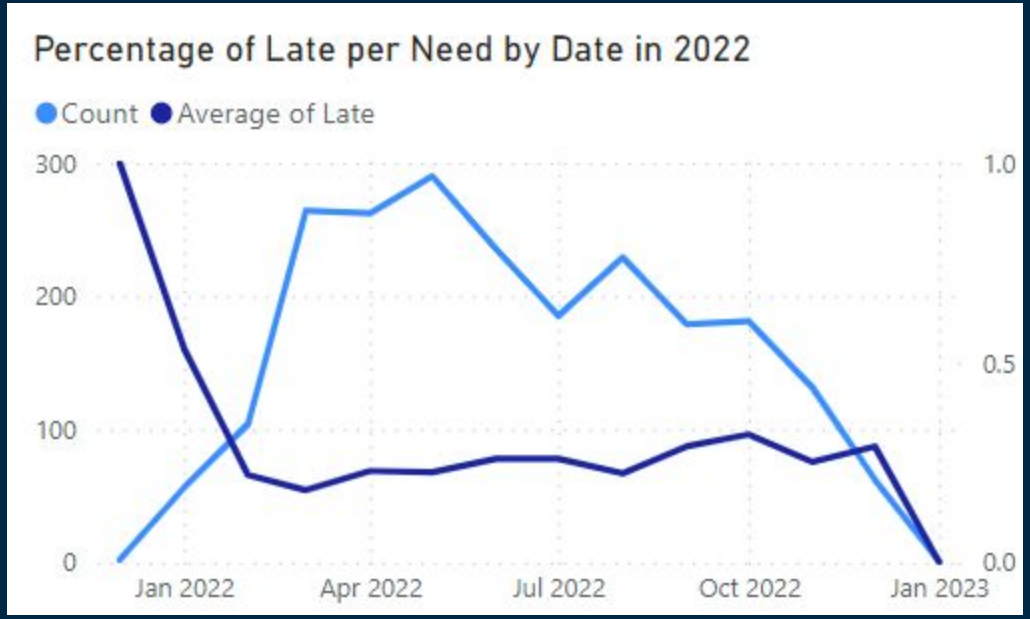
	coef	std err	z	P>|z|	[0.025	0.975]
Intercept	-1.1896	0.056	-21.323	0.000	-1.299	-1.080
Dist	0.0021	0.001	4.036	0.000	0.001	0.003

SUPPLY CHAIN ANALYSIS

Dept	Count	Percentage of Late
QC	**97**	**0.56**
Location 1	95	0.56
Location 2	2	0.50
BTL	**73**	**0.51**
Location 4	62	0.52
Location 3	11	0.50
QC-Micro	**119**	**0.39**
Location 2	118	0.40
Location 1	1	0.00
MFG-Gen	**148**	**0.32**
Location 2	95	0.35
Location 1	53	0.28
Total	**2190**	**0.25**

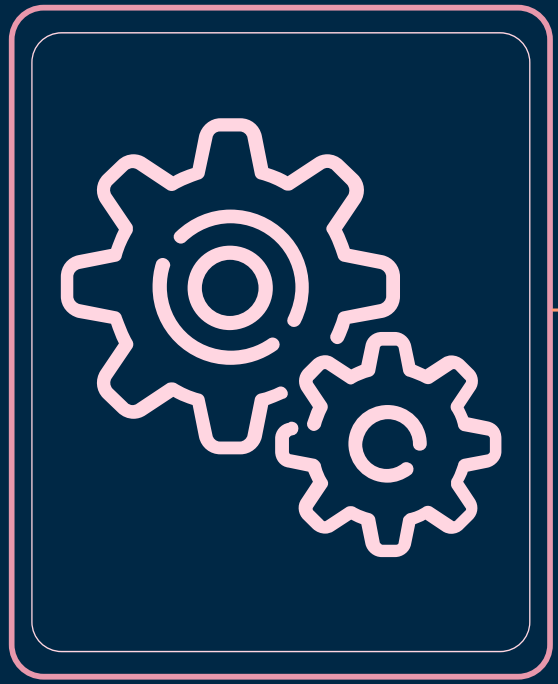
Dept	Count	Percentage of Late
Val	**3**	**0.00**
Bristol	**16**	**0.06**
Location 1	13	0.00
Location 6	3	0.33
PD	**292**	**0.19**
Location 2	292	0.19
MFG-PS	**523**	**0.19**
Location 2	376	0.16
Location 1	147	0.27
MFG-DS	**409**	**0.22**
Location 1	171	0.20
Location 2	238	0.23
Total	**2190**	**0.25**

SUPPLY CHAIN ANALYSIS

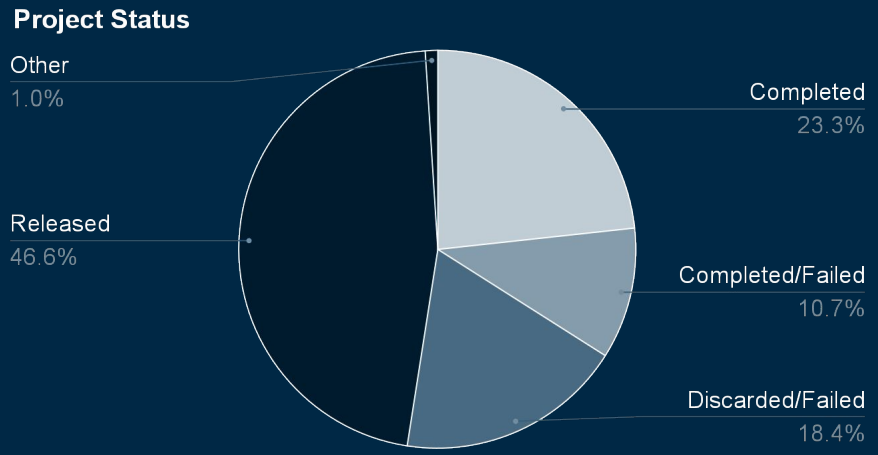


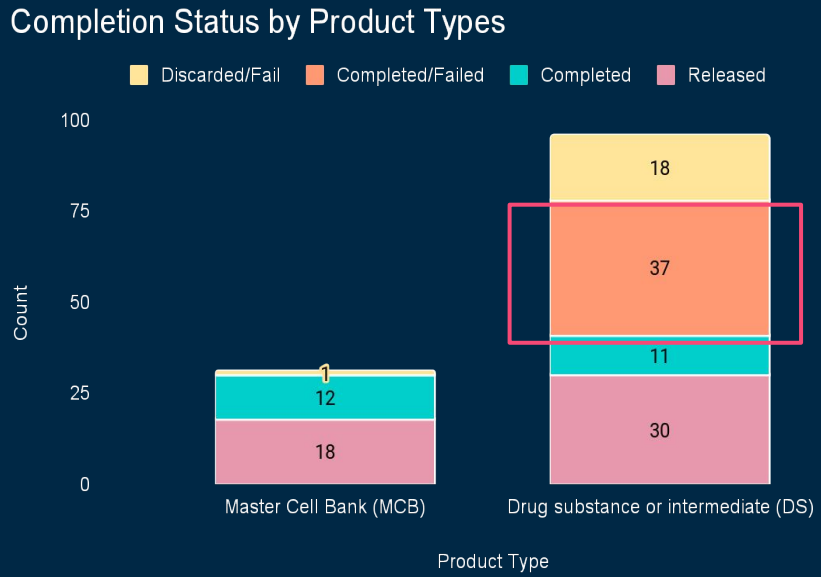
MANUFACTURING SOLUTIONS

1. Product life cycle with highest failure rate: **Drug substance**
2. Be aware of human errors: **Build data accuracy culture**
3. Certain departments need internal process improvement



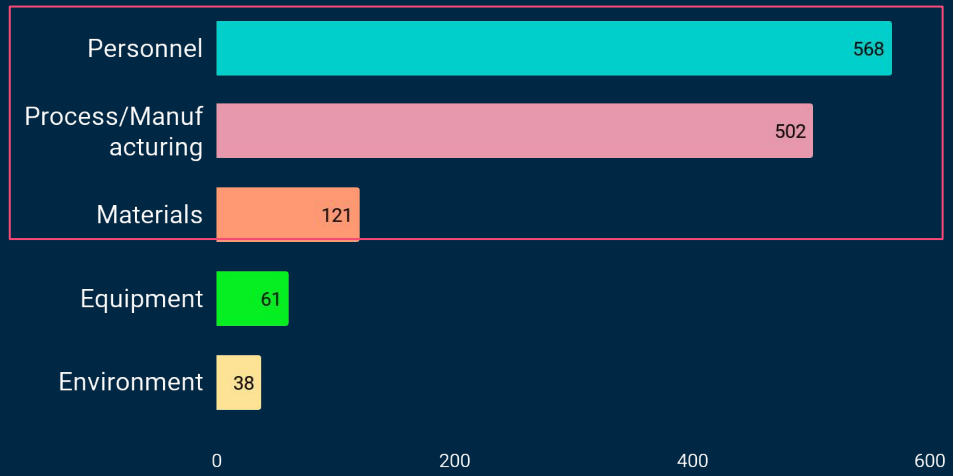
MANUFACTURING - PROJECTS COMPLETION



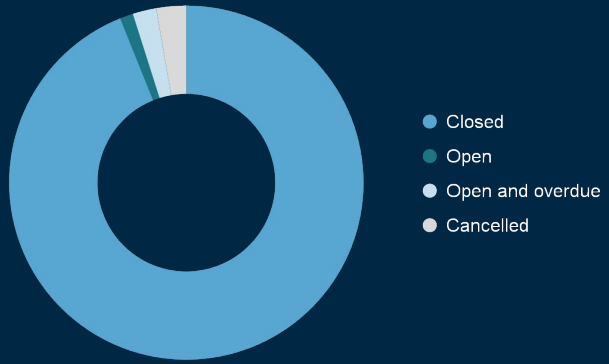


MANUFACTURING - DEVIATIONS

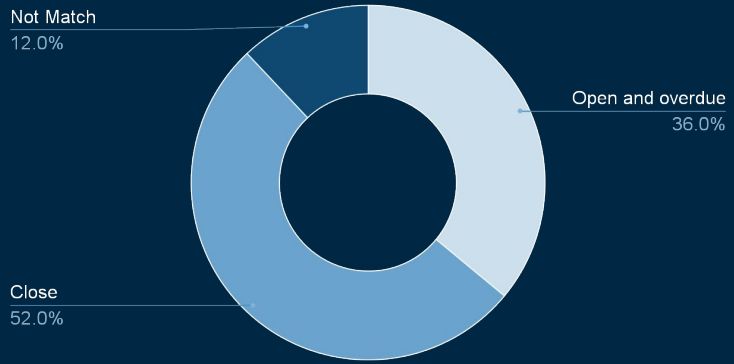
Top 5 Root Causes



Deviation status across all records

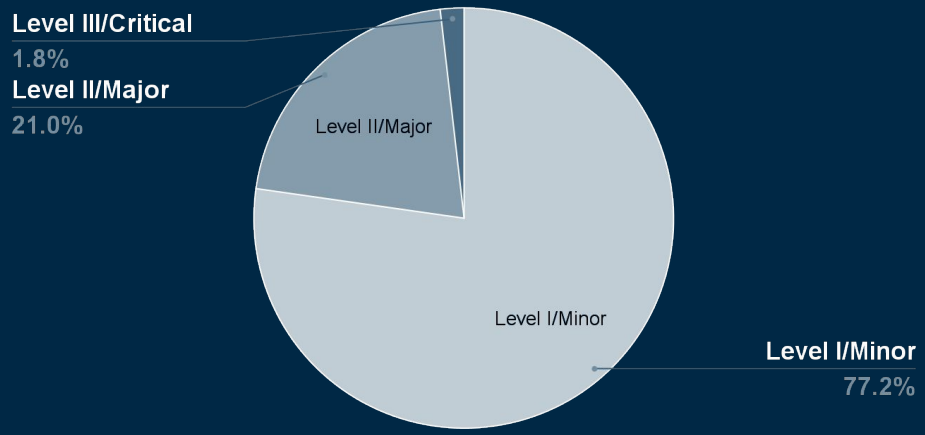


Project Deviation Status

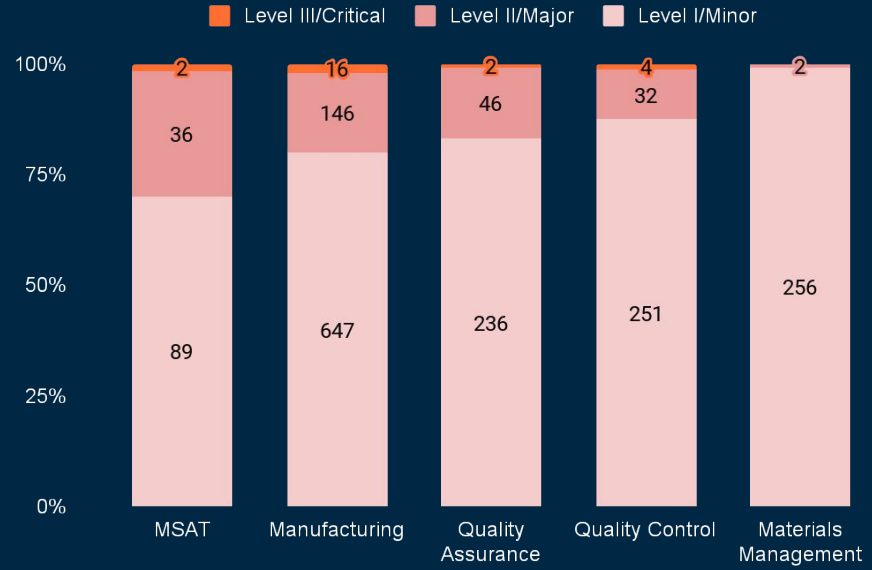


MANUFACTURING - DEVIATIONS

Deviation Severity

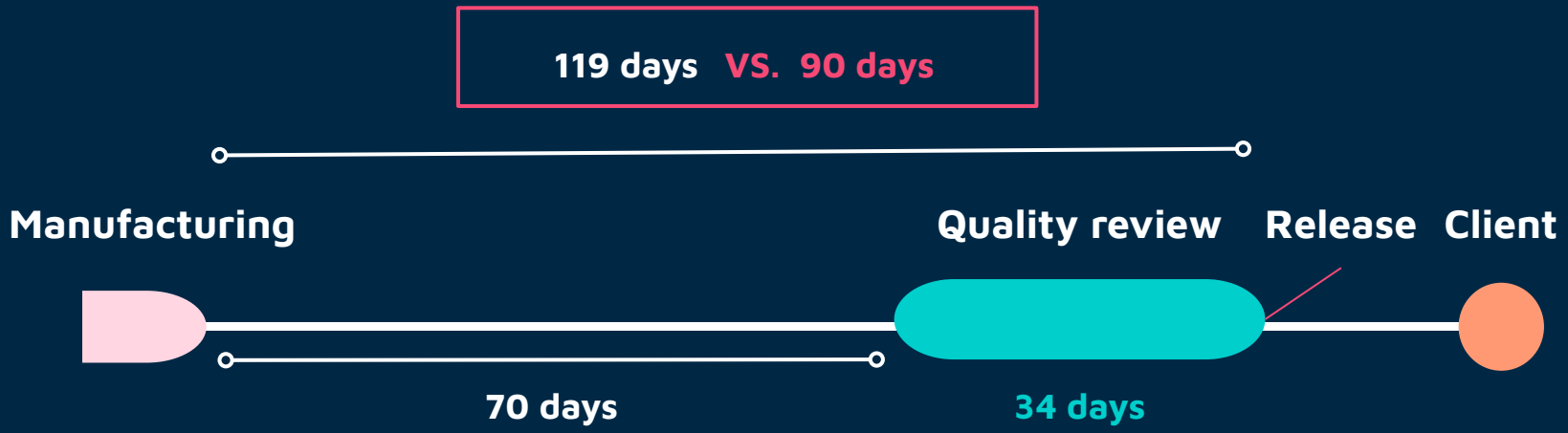


Deviation Severity across Departments

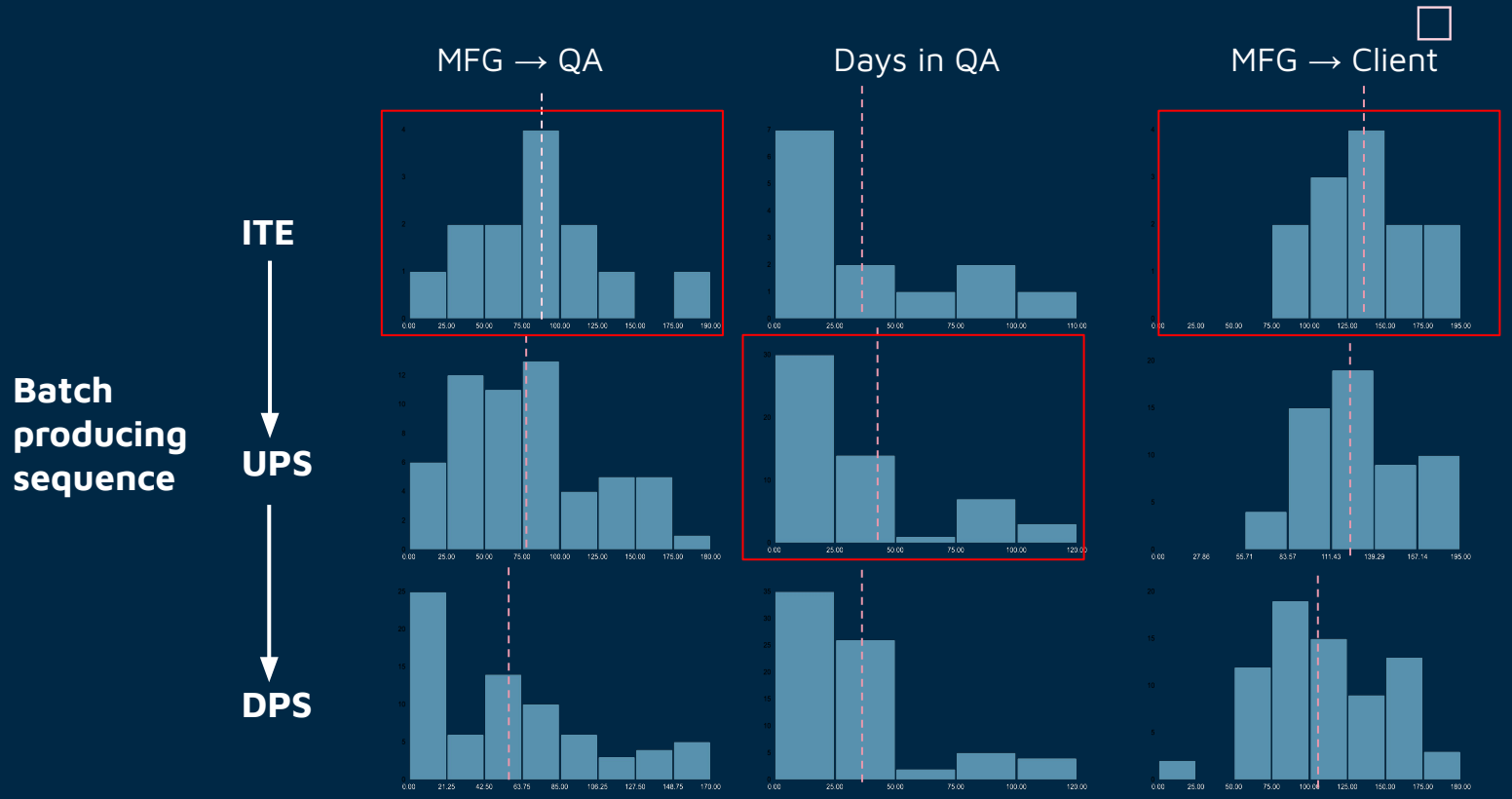


QUALITY - SOLUTIONS

Increase process efficiency according to different products



QUALITY - ANALYSIS



QUALITY - ANALYSIS

Deviation root cause in QA & QC

Personnel

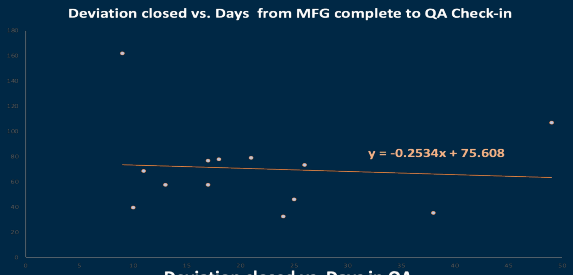
34.7%

Process/Method

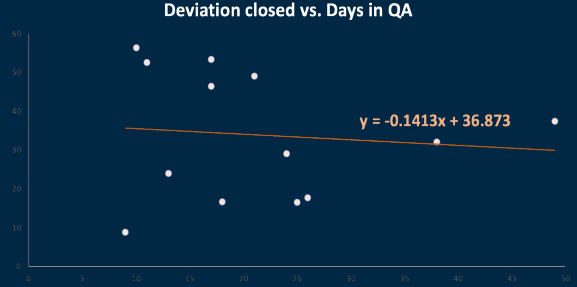
44.7%

QUALITY - ANALYSIS

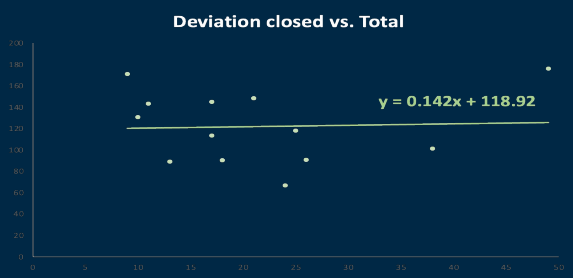
MFG → QA



QA

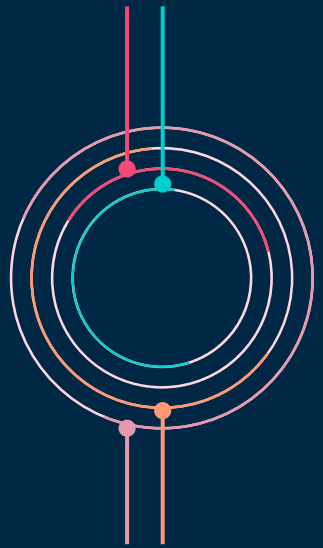


MFG→ Client



Deviations have significant impact on process time…

Quality Process



Deviation

SUMMARY

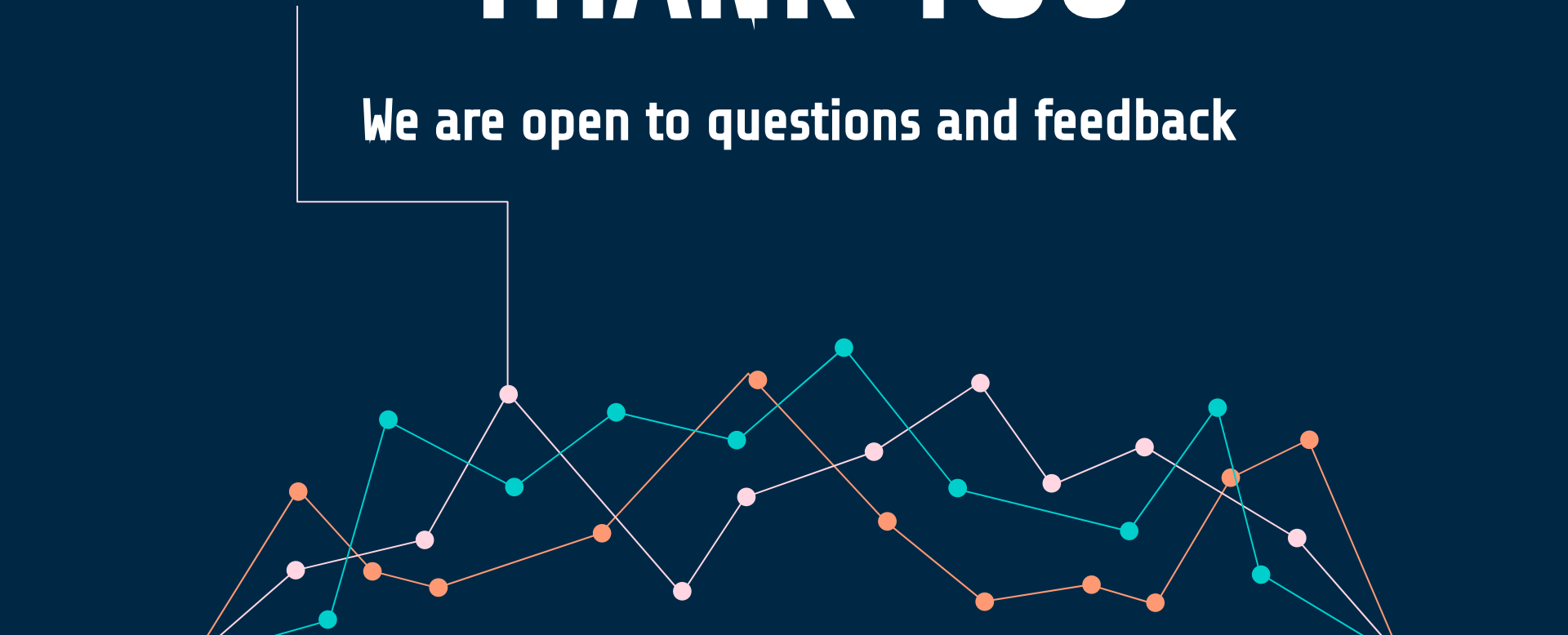
Data Culture

Warehouses Building

Deviations

THANK YOU

We are open to questions and feedback



4,498,300,000

Big numbers catch your
audience’s attention

AWARDS

	DATE	REASON	DESCRIPTION
MERCURY	2010	Jupiter	It’s the closest planet to the Sun and the smallest one
MARS	2012	Neptune	Despite being red, Mars is actually a cold place
VENUS	2016	Saturn	It has a nice name and is the second planet from the Sun

UPCOMING GOALS

JUPITER

JUNE 2

It’s the biggest planet in the Solar System

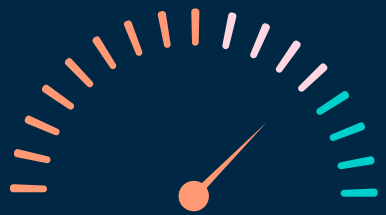
SATURN

OCTOBER 14

Saturn is composed mostly of hydrogen and helium

NEPTUNE

JANUARY 23



Neptune is the farthest planet from the Sun

ALTERNATIVE RESOURCES