



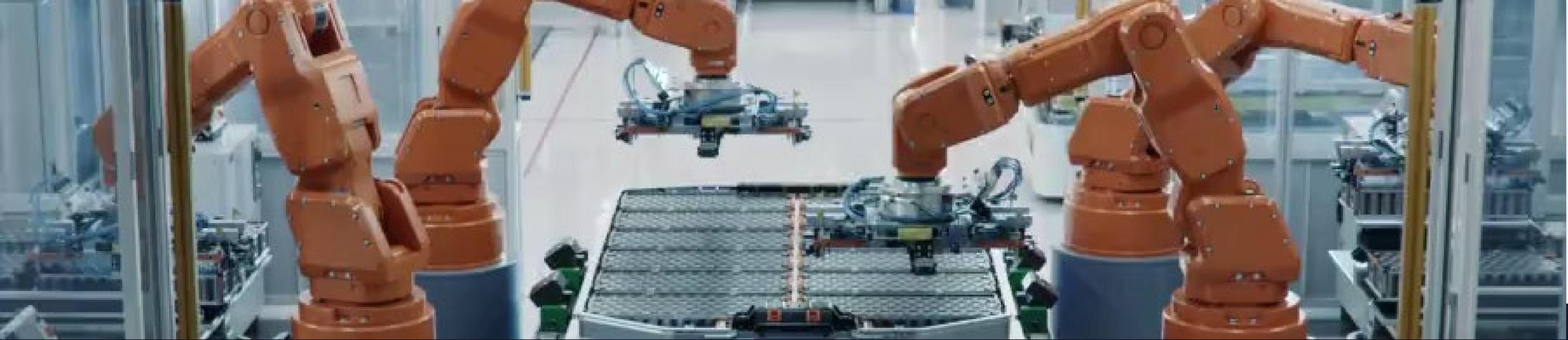
# VOLTA

We Power Up Your Data

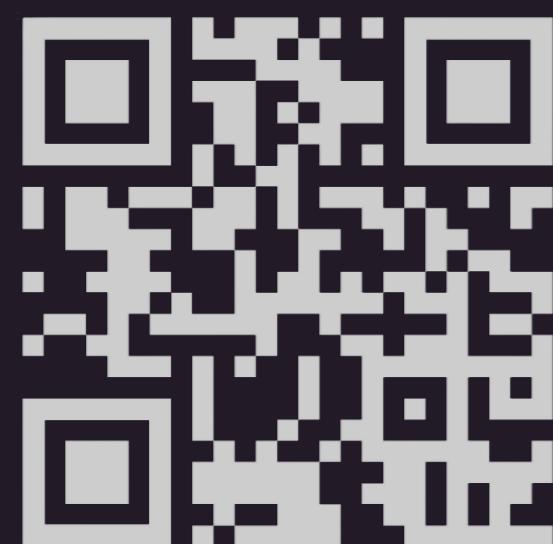
**“ The history of scientific  
discovery is a history of  
obstacles overcome ”**

Alessandro Volta





# AppliediT



## AUTOMOTIVE COMPANY - APPLIED IT - VOLTA

- Experts in solving problems through data analytics
- Solutions provider for Industry 4.0
- Capitalizing on data



Tomás  
Gonzalez



Matías  
Orozco



Mirko  
Aivasovsky

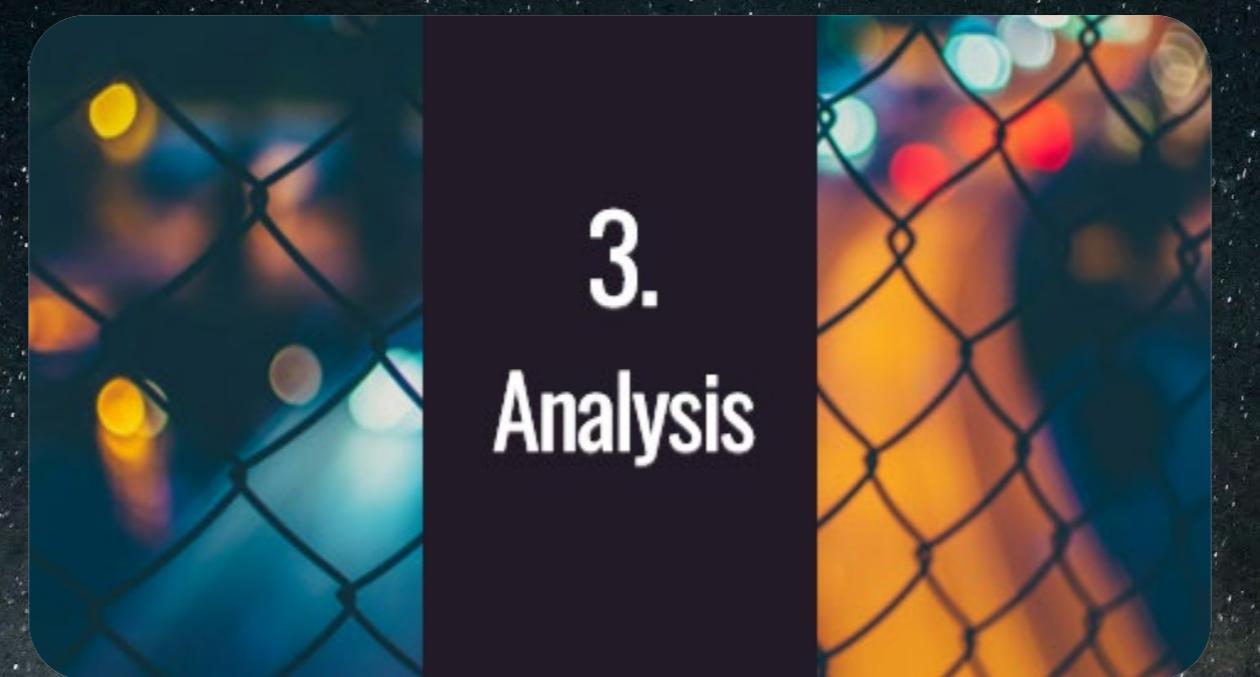


Guillermo  
Rodríguez

# 1. Index



2. The  
Process



3.  
Analysis



4.  
Conclusions  
and Next Steps

HGCC22



# 2. The Process



## Station A



A1



A2



A3

## Station B



x 48

~34,7%

Not OK

x 12

~81,0%

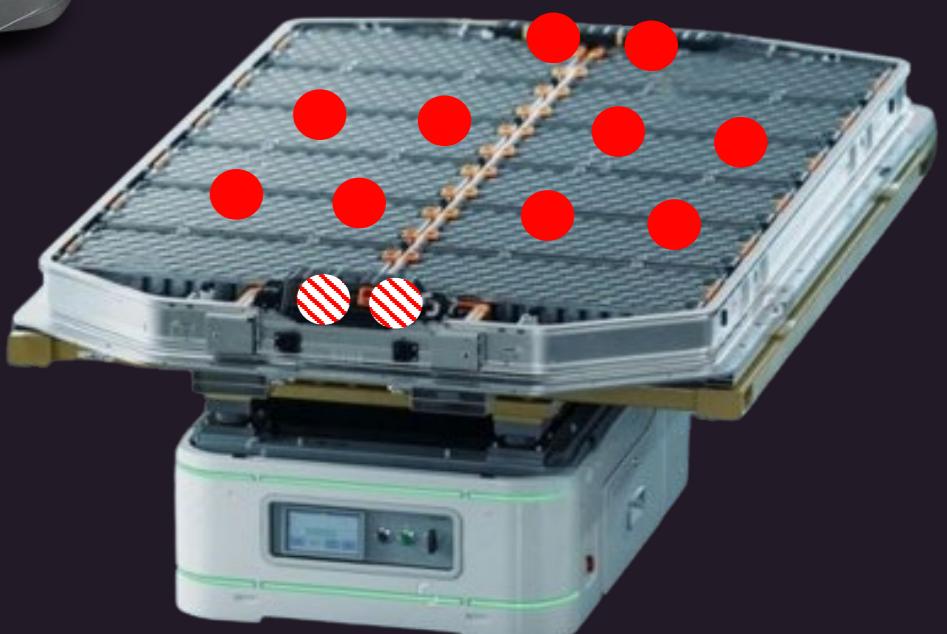
Not OK



B1



B2

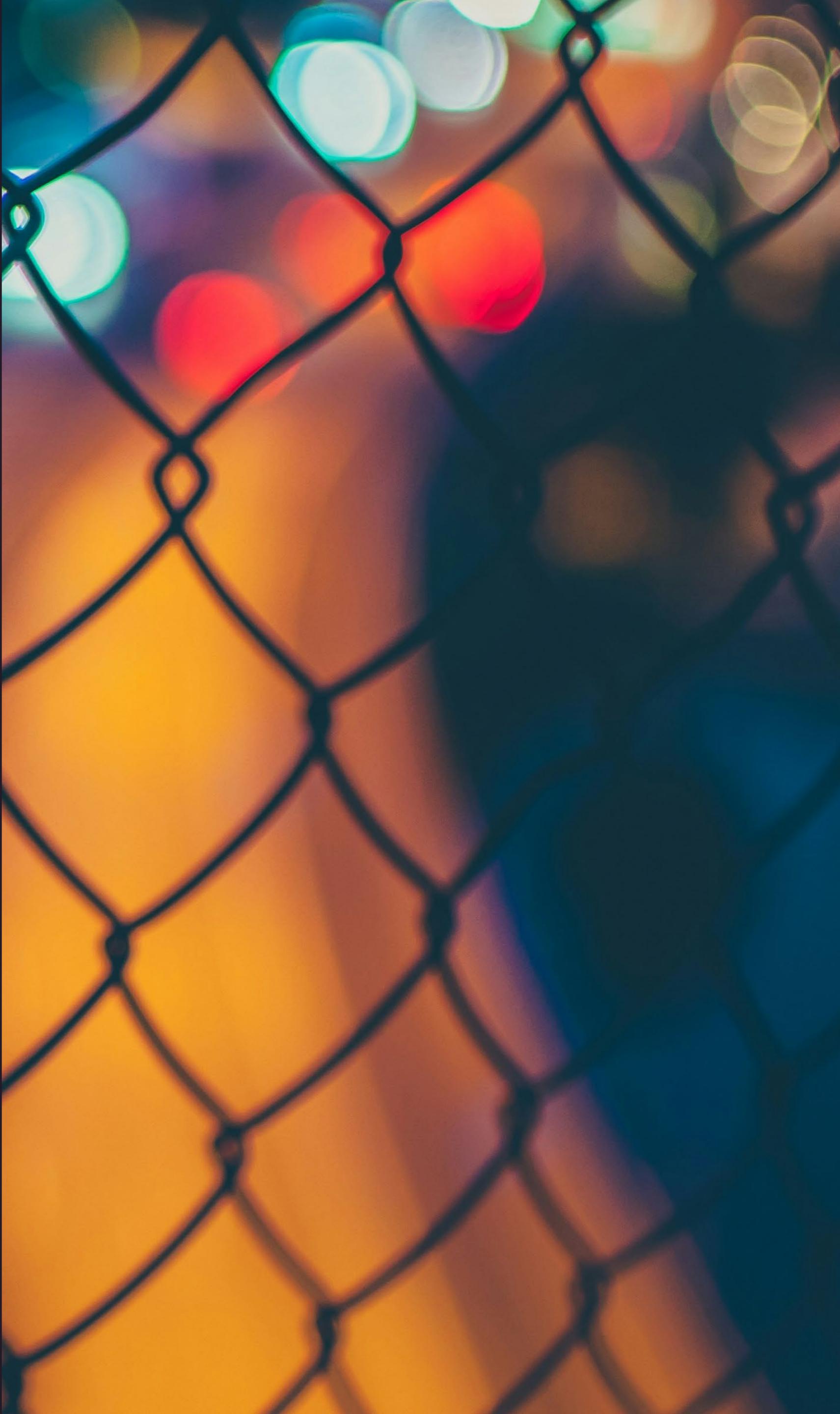


12 :



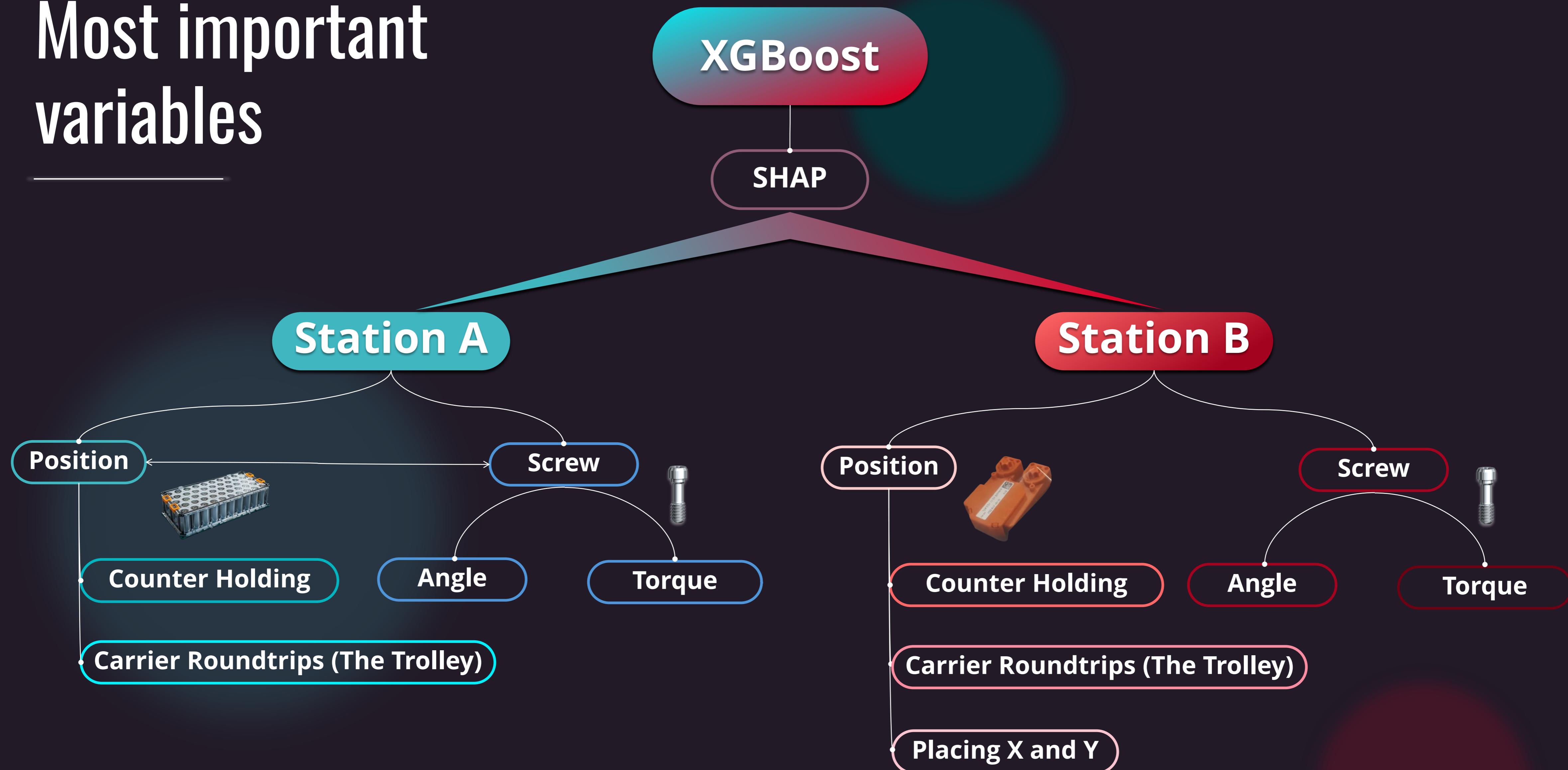
2 :





# 3. Analysis

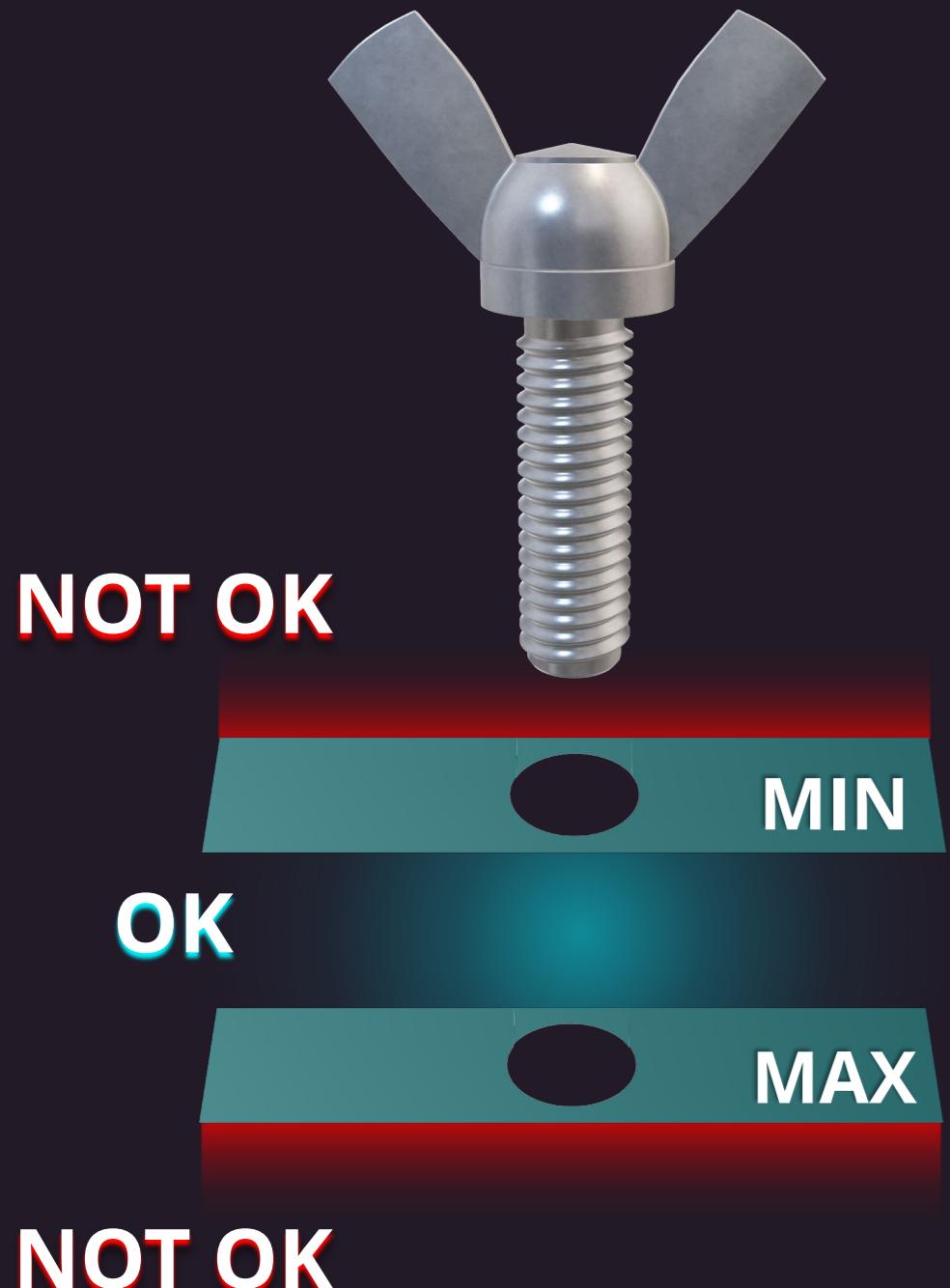
# Most important variables



# Screw

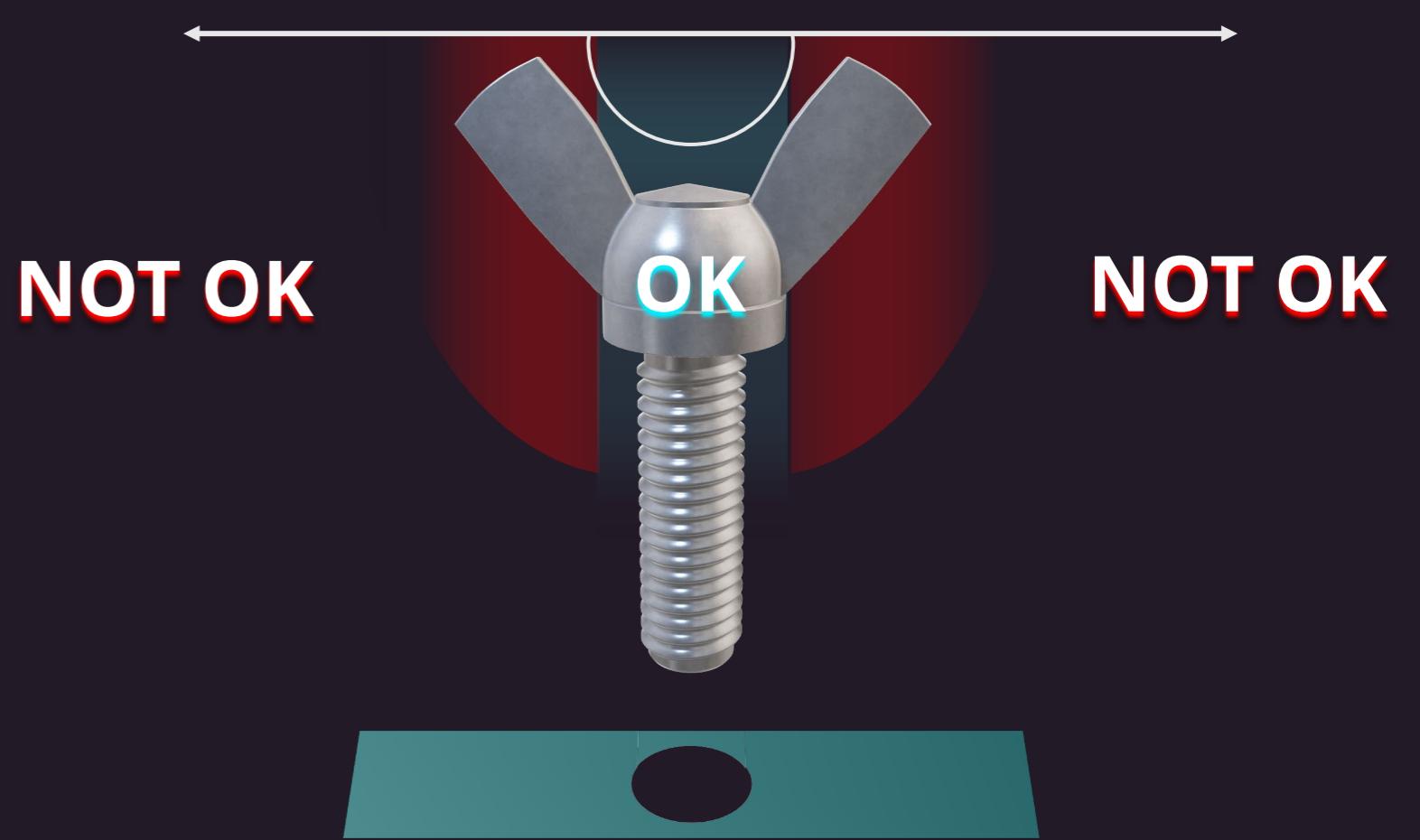
## Torque, Angle and its Thresholds

### Torque



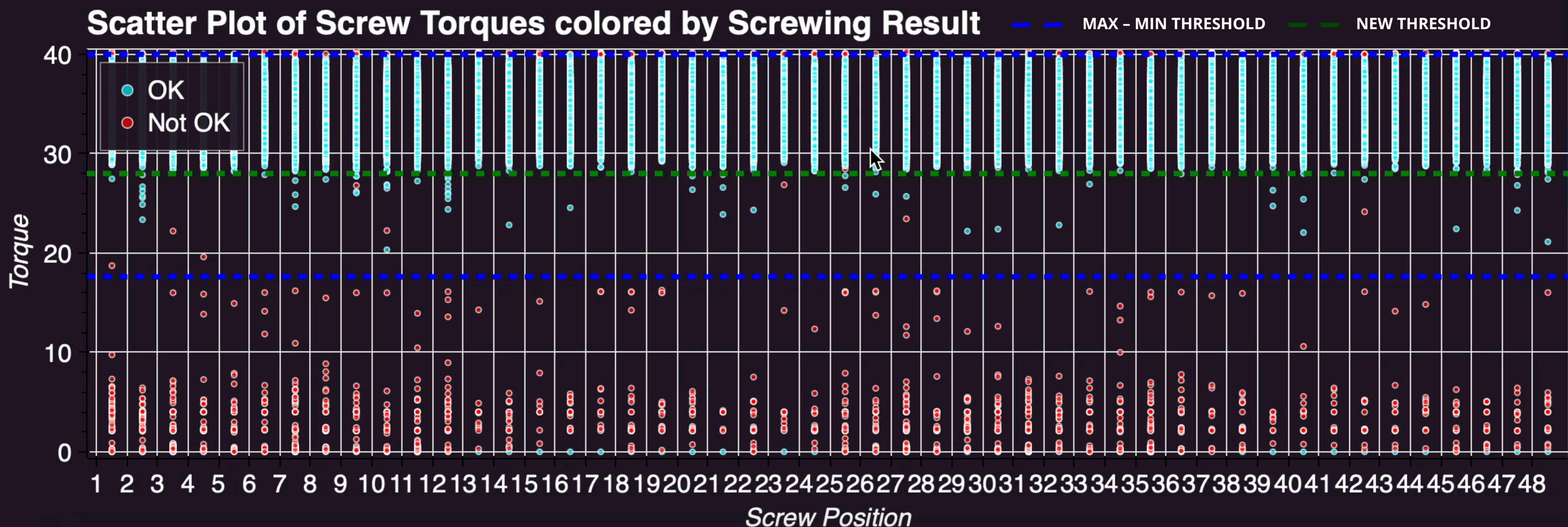
- Measures the **rotational force applied to an object**, like turning a bolt or a wheel
- Determines **how much twisting force is needed to cause rotation**
- "How hard you need to turn a wrench to tighten a screw"

### Angle

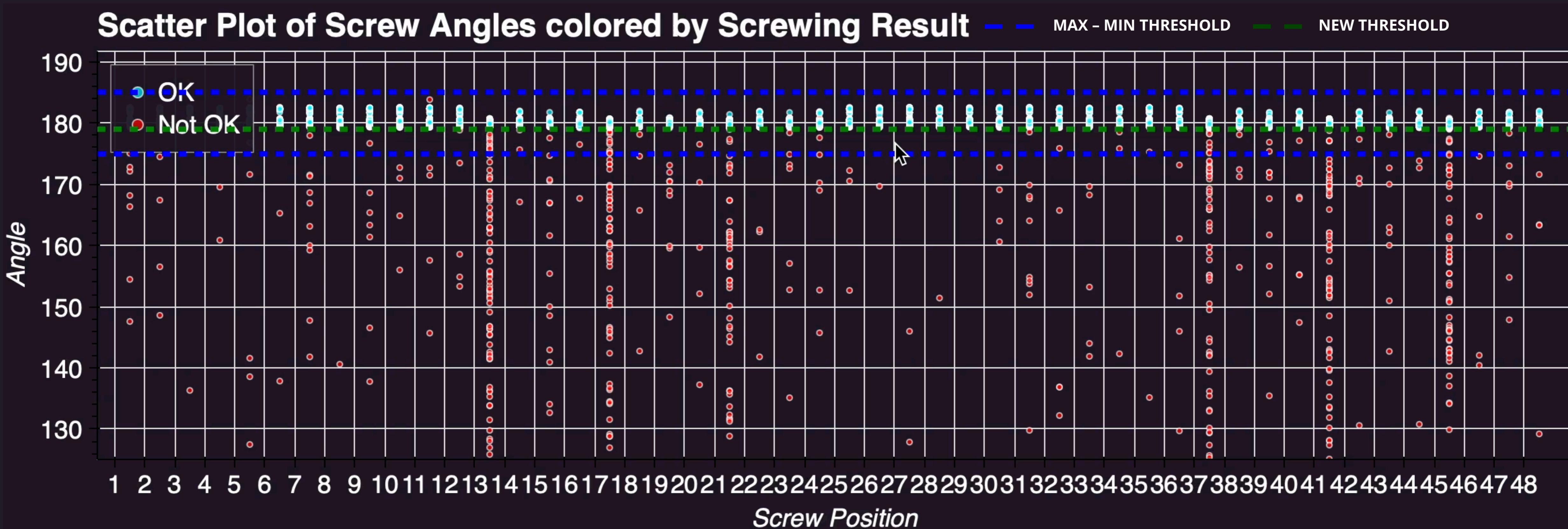


Both OKs are needed to achieve an OK in SCREW.

# Station A: Torque



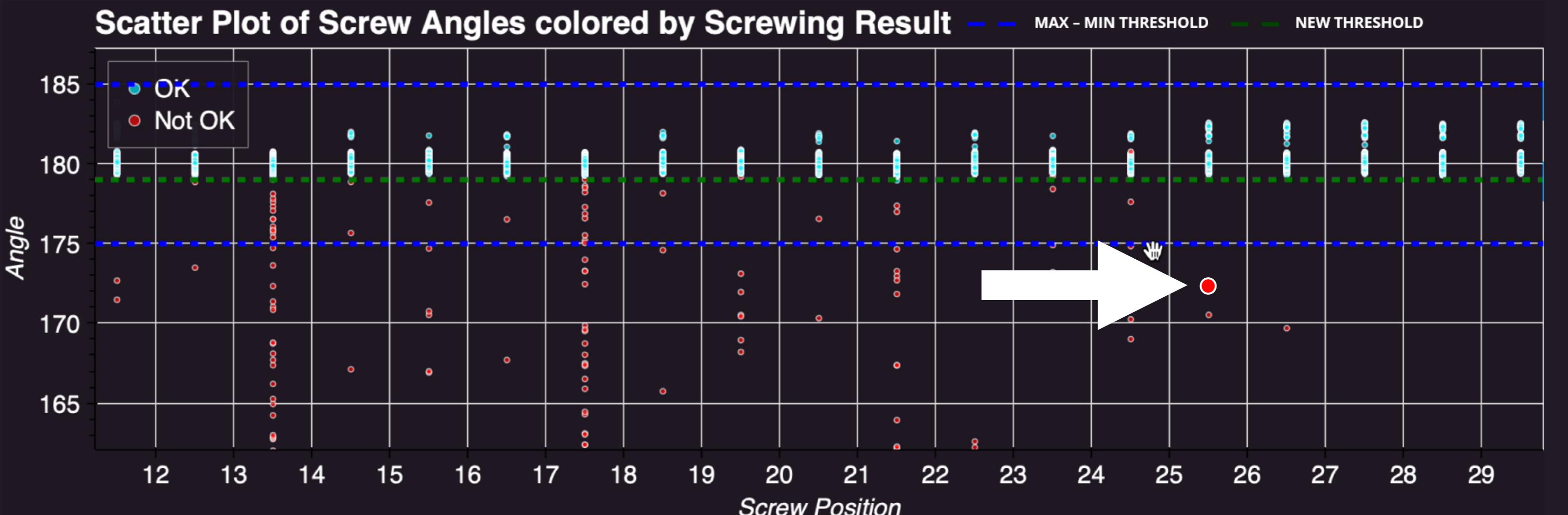
# Station A: Angle



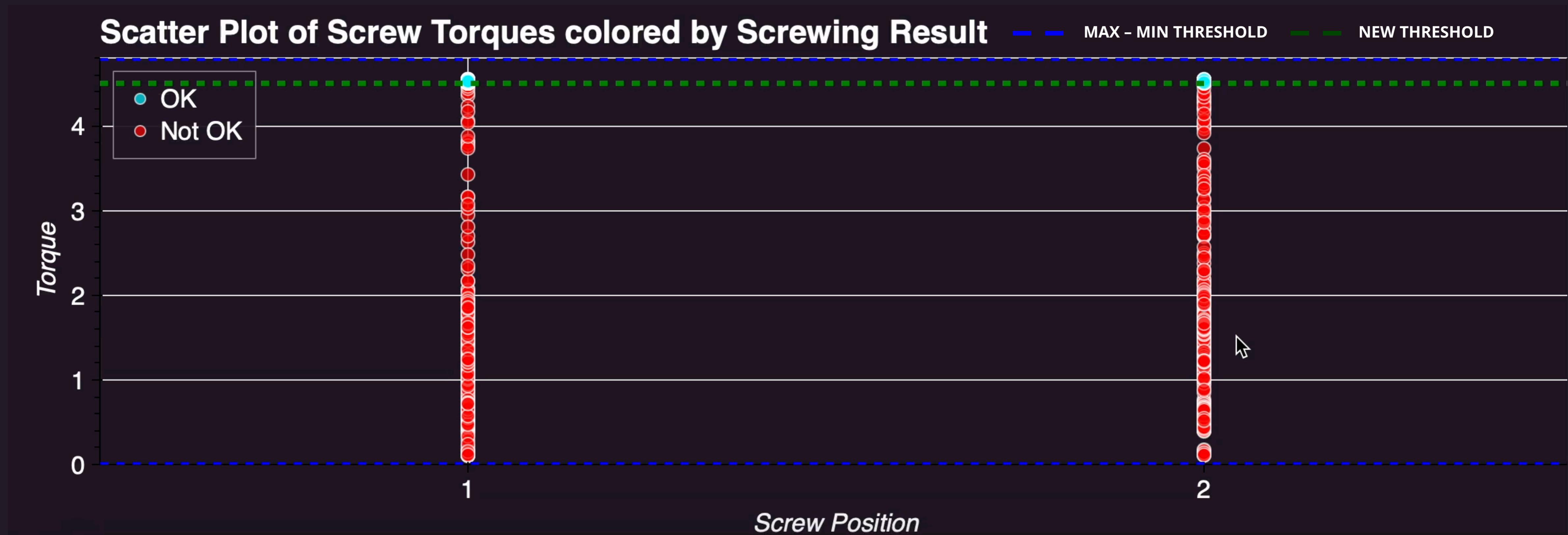
# Station A: Torque and Angle

Then, Why there are  
Not Oks inside the  
threshold?

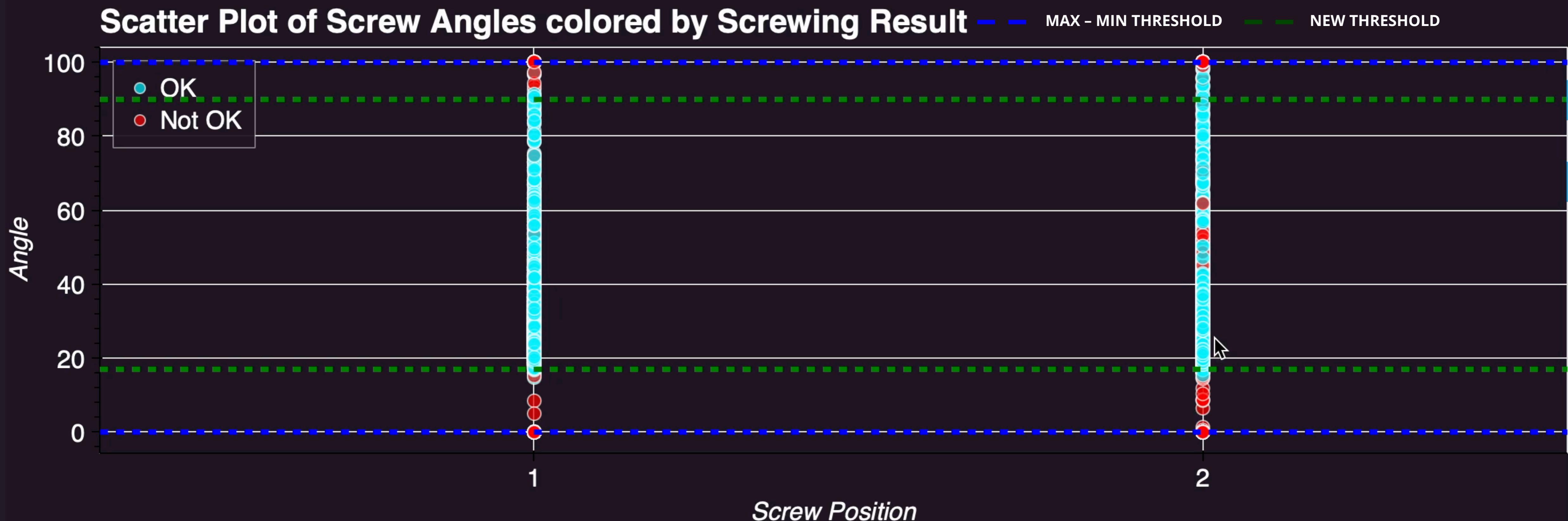
Both Results in  
Torque and Angle  
must be inside of the  
Threshold for an OK  
Result in Screw



# Station B: Torque

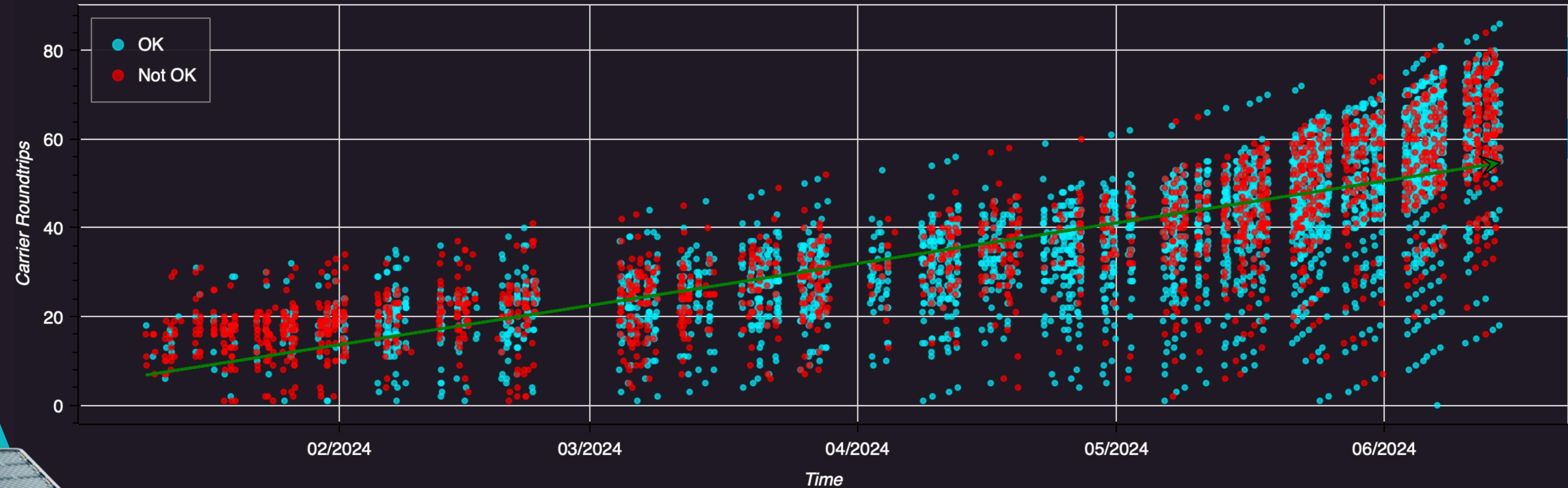


# Station B: Angle

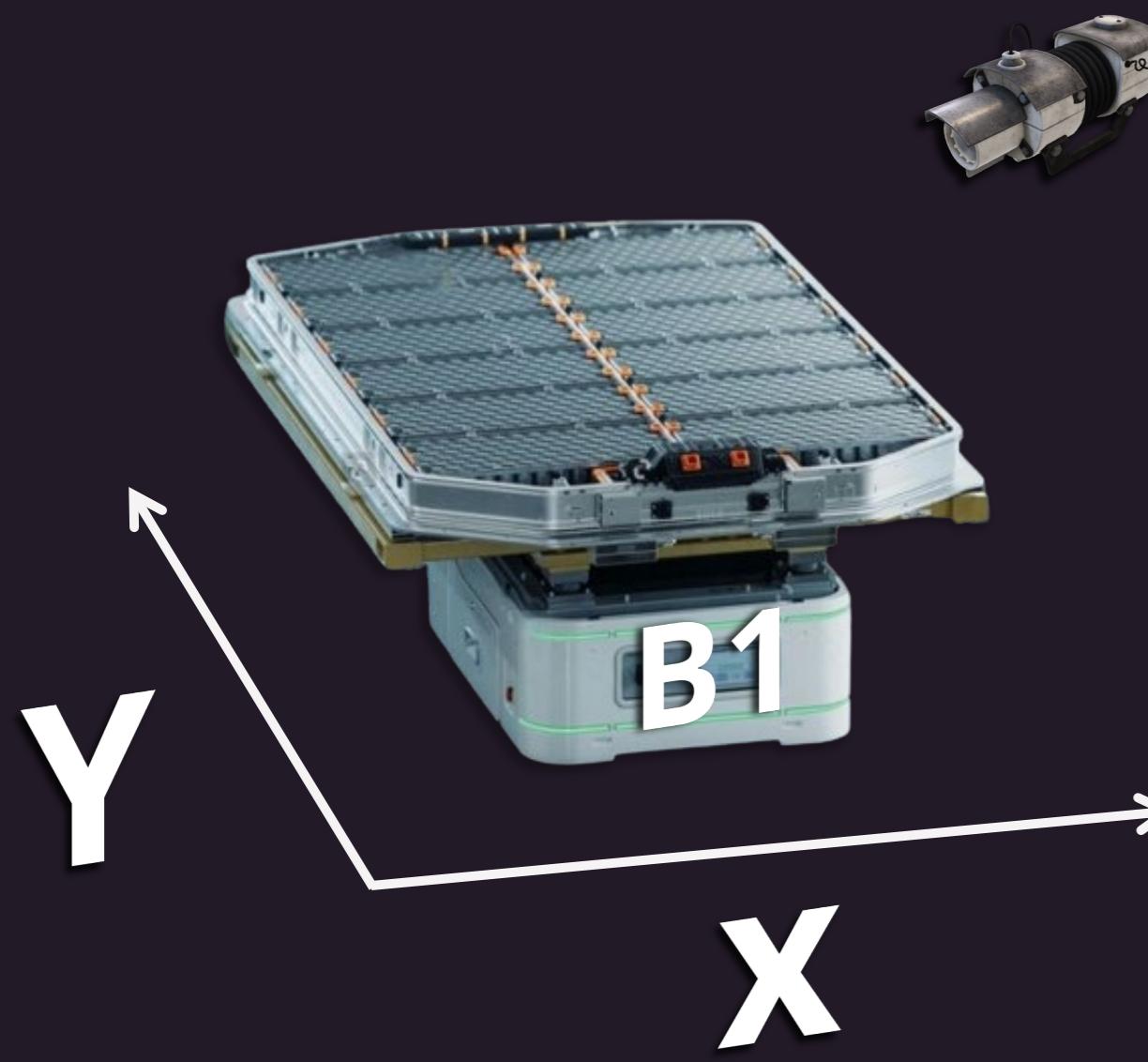


# Position

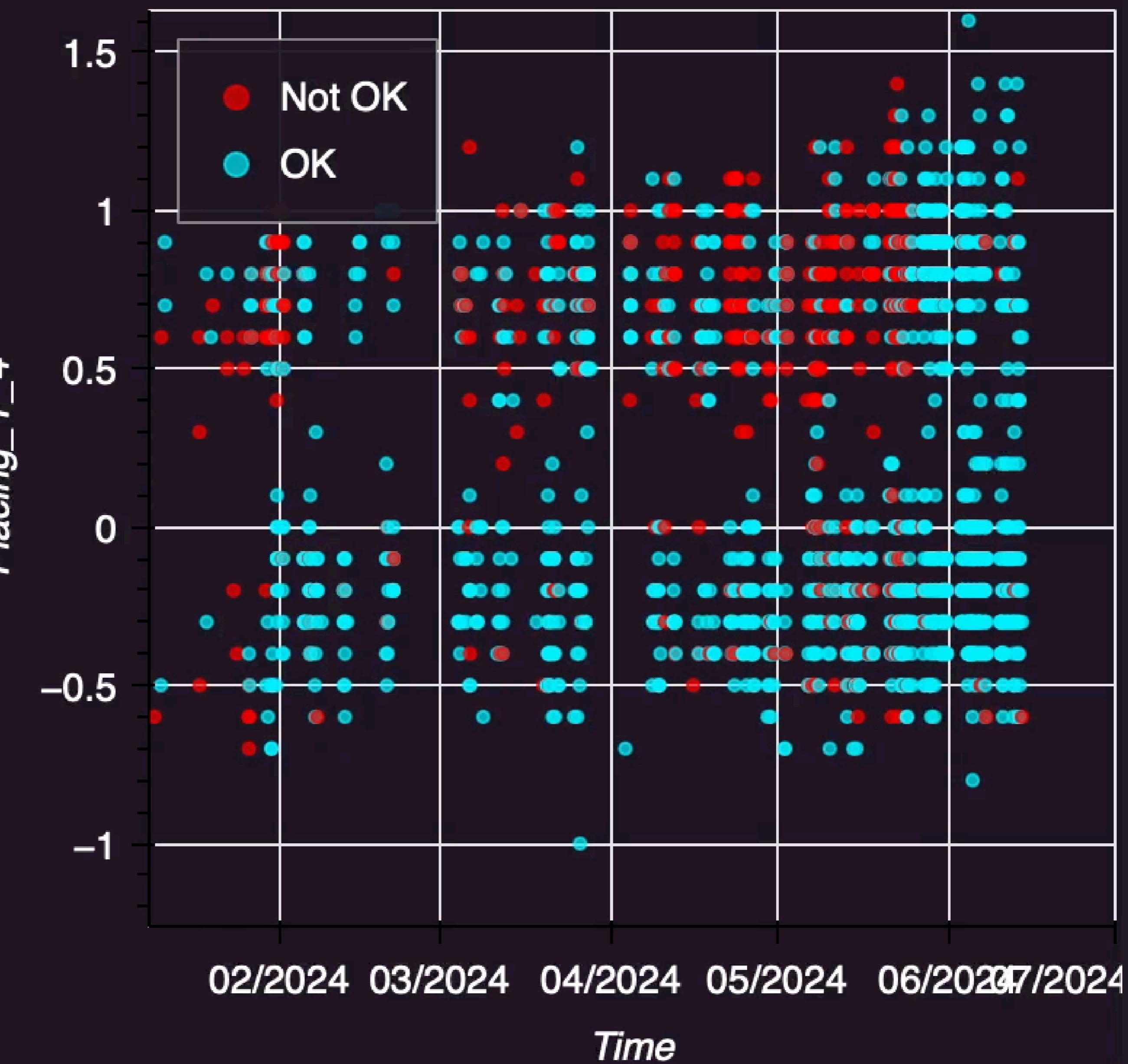
## Carrier Roundtrips (The Trolley)



# Position X and Y in Station B



## Position 4 Station ST160.1

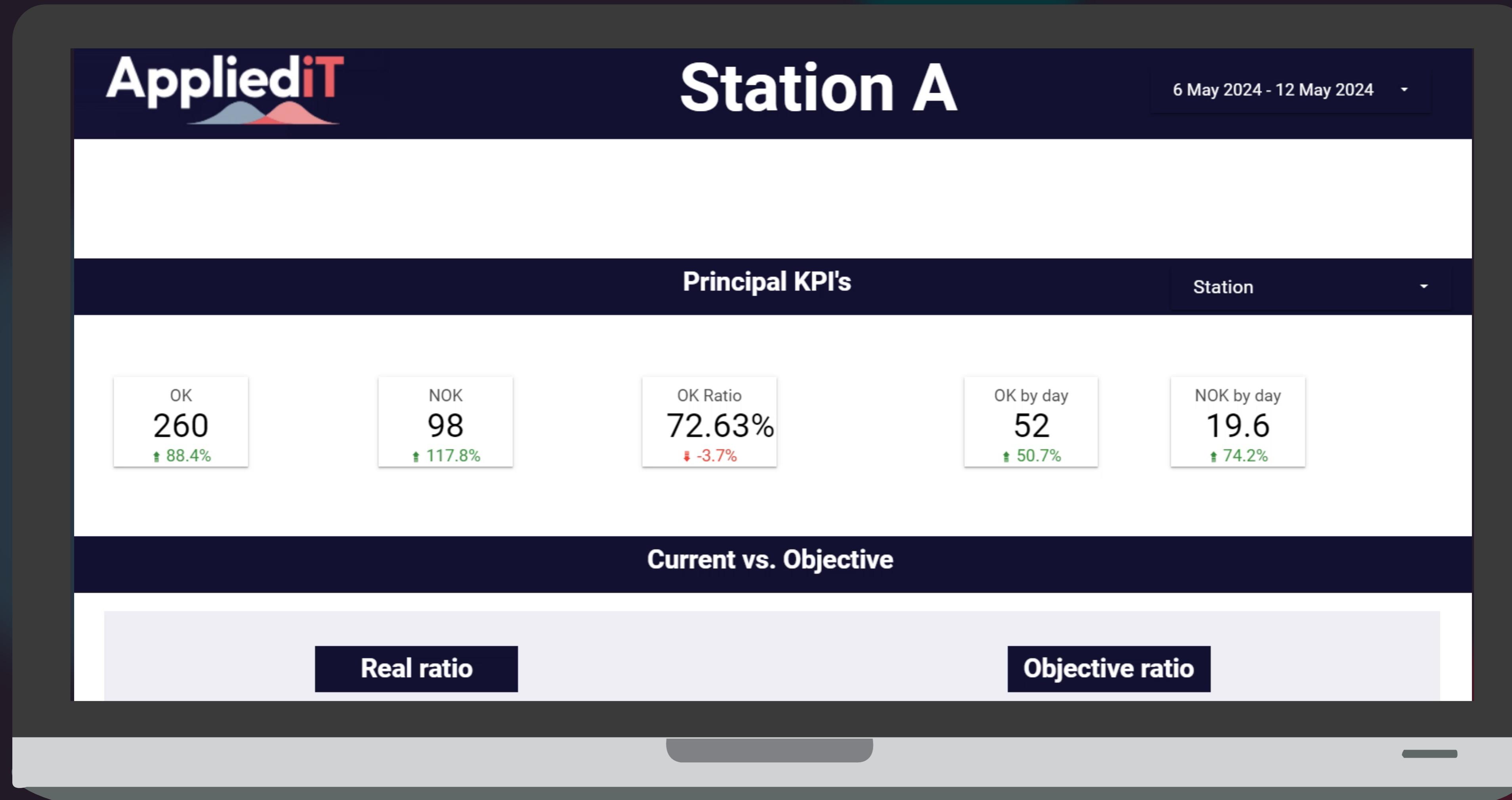


## ALEXANDER AKA 'THE ENGINEER'



What would **you** need if you were **Alexander**?

# A Project Dashboard: Realizing Efficiency Gains





# 4. Conclusions and Next Steps

# Efficiency Benefits

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More torque



Increase minimum level  
of torque applied by  
robots

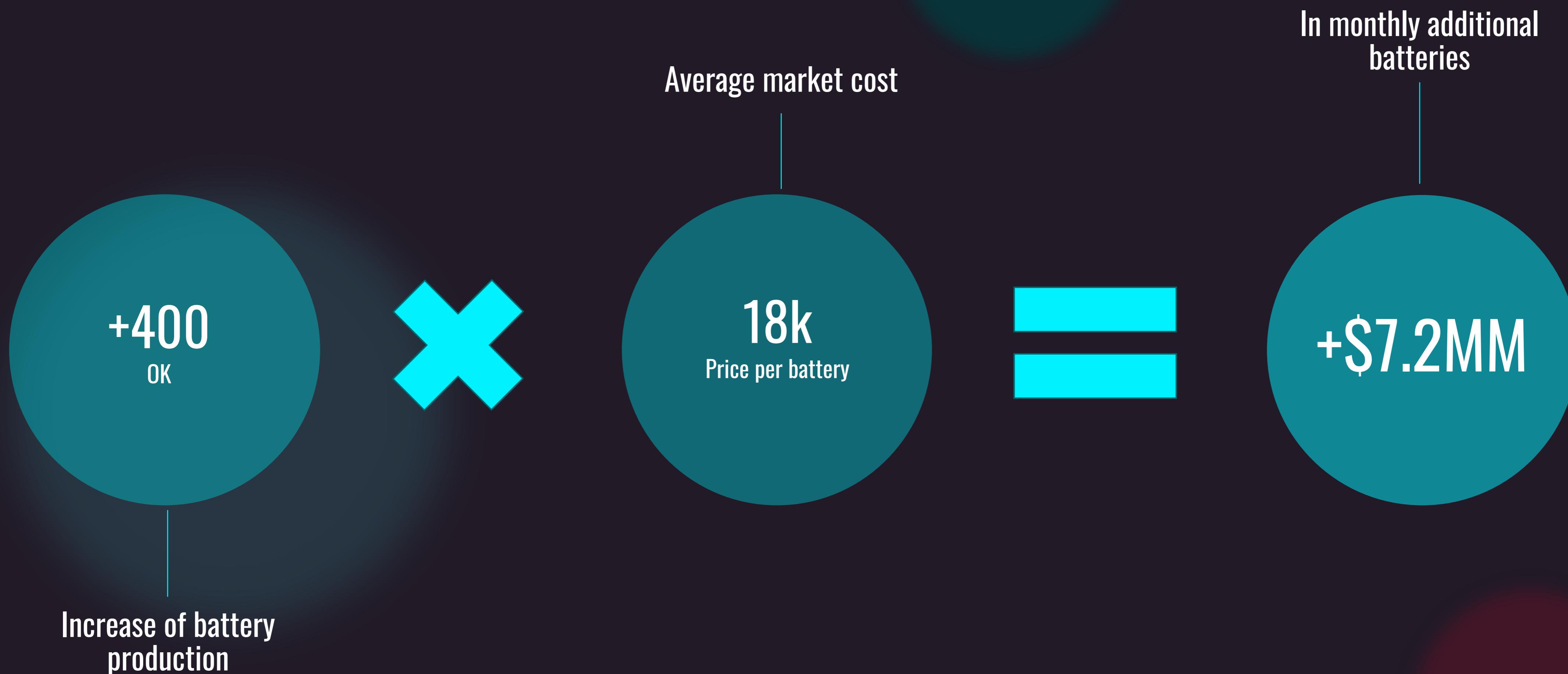
Better angle



Program robots to  
maintain a steady angle

+24%  
OK/Not OK\*

# Monetary Benefits - Income



# Monetary Benefits - Costs



# Next Steps

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2. Obtain data regarding the robot holding variable (55% OK)

1

1. Conduct experiment with new torque and angle limits

3

3. Analyze effect of processing time in Not OK rate

2