Understanding OEE & how to use it effectively

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REAL-TIME SCHEDULING & ANALYTICS

Agenda

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01 Introduction to OEE

What is OEE and how it can help you

02 The theory

Learn about the theory of OEE and how it's calculated

03 Data capture

How you can collect the required data in Seiki AIR & product demo

04 Continuous improvement

How to use OEE as an effective tool for improving manufacturing productivity

05 Q&A

We want to hear from you – this is your opportunity to ask us any questions that you may have

What is OEE

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Powerful KPI for measuring **manufacturing productivity**

Uncover all the TIME that is lost through the manufacturing process

Availability

How much time is lost to unplanned machine/resource downtime

Performance

How much time is lost by not making parts within their standard times

Quality

How much time is lost by manufacturing non-conforming parts

The benefits of OEE

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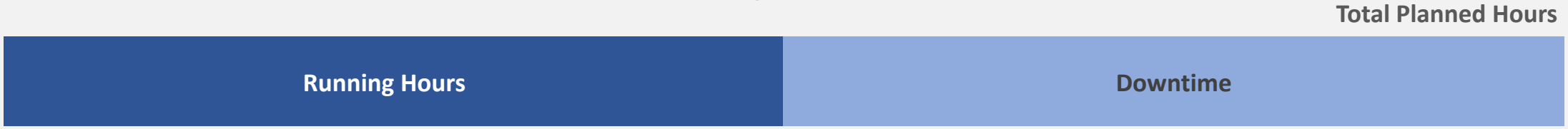
- ☑ Helps you identify and tackle waste and losses across your entire manufacturing process
- ☑ Helps you improve the productivity and throughput of your manufacturing resources
- ☑ Helps you improve the accuracy of your production planning
- ☑ Helps you benchmark progress
- ☑ Helps you improve the ratio between what your customers pay for and the actual total time (cost) to manufacture parts, i.e. your margin

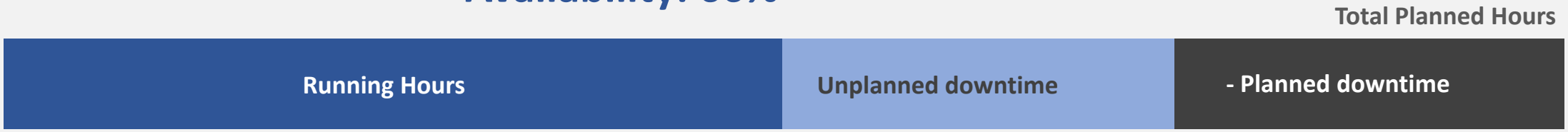
Calculating OEE - Availability

Utilisation: 50%



Machine utilisation tells me how much productivity I've lost to downtime

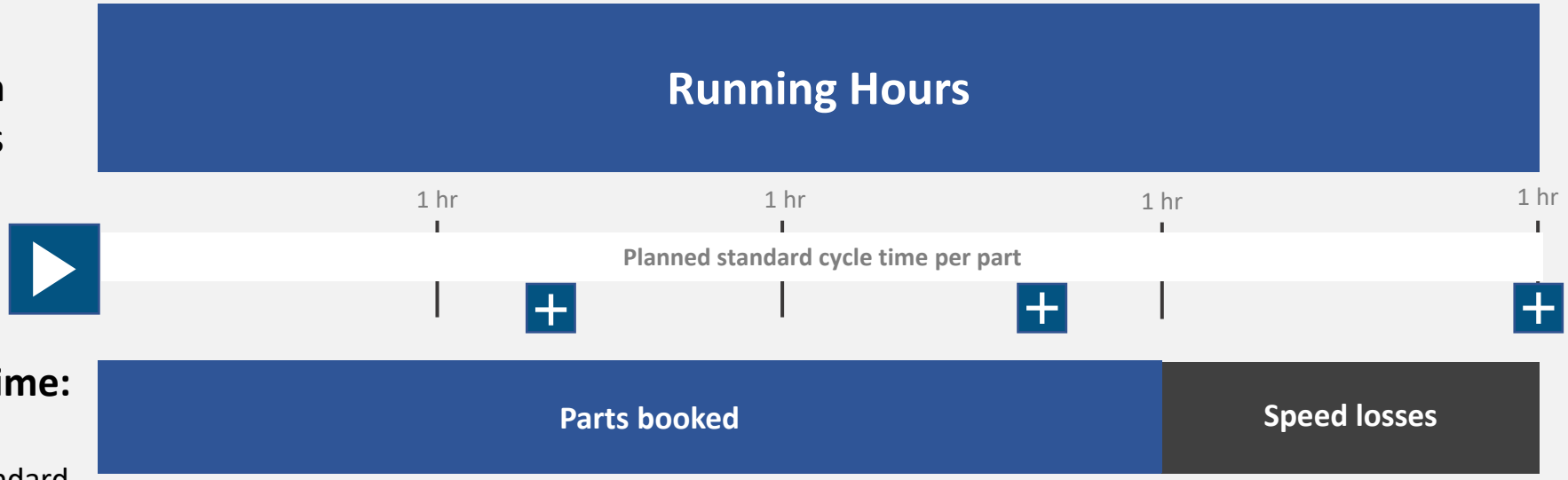
Availability: 66%



"Availability" refines the calculation further by subtracting planned downtime from the planned hours, i.e. time that you were never going to be productive

Calculating OEE - Performance

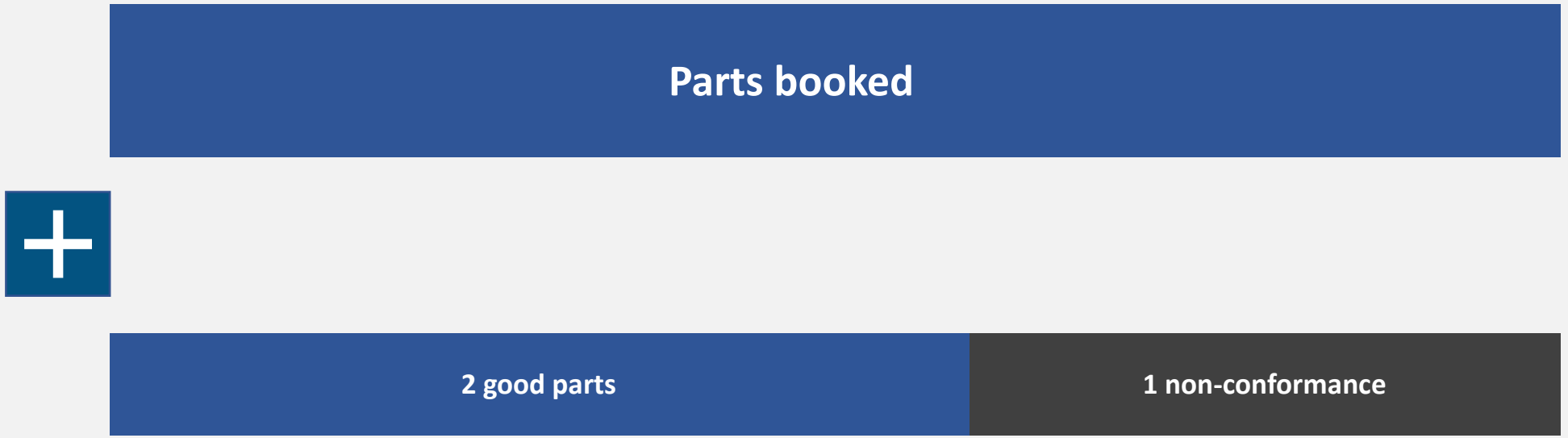
Actual Production Time: 4 hrs



Effective Time: 3 hrs (based on standard cycle time of 1 hour per part)

Performance: 75%

Calculating OEE - Quality



Quality: 66%

Calculating OEE

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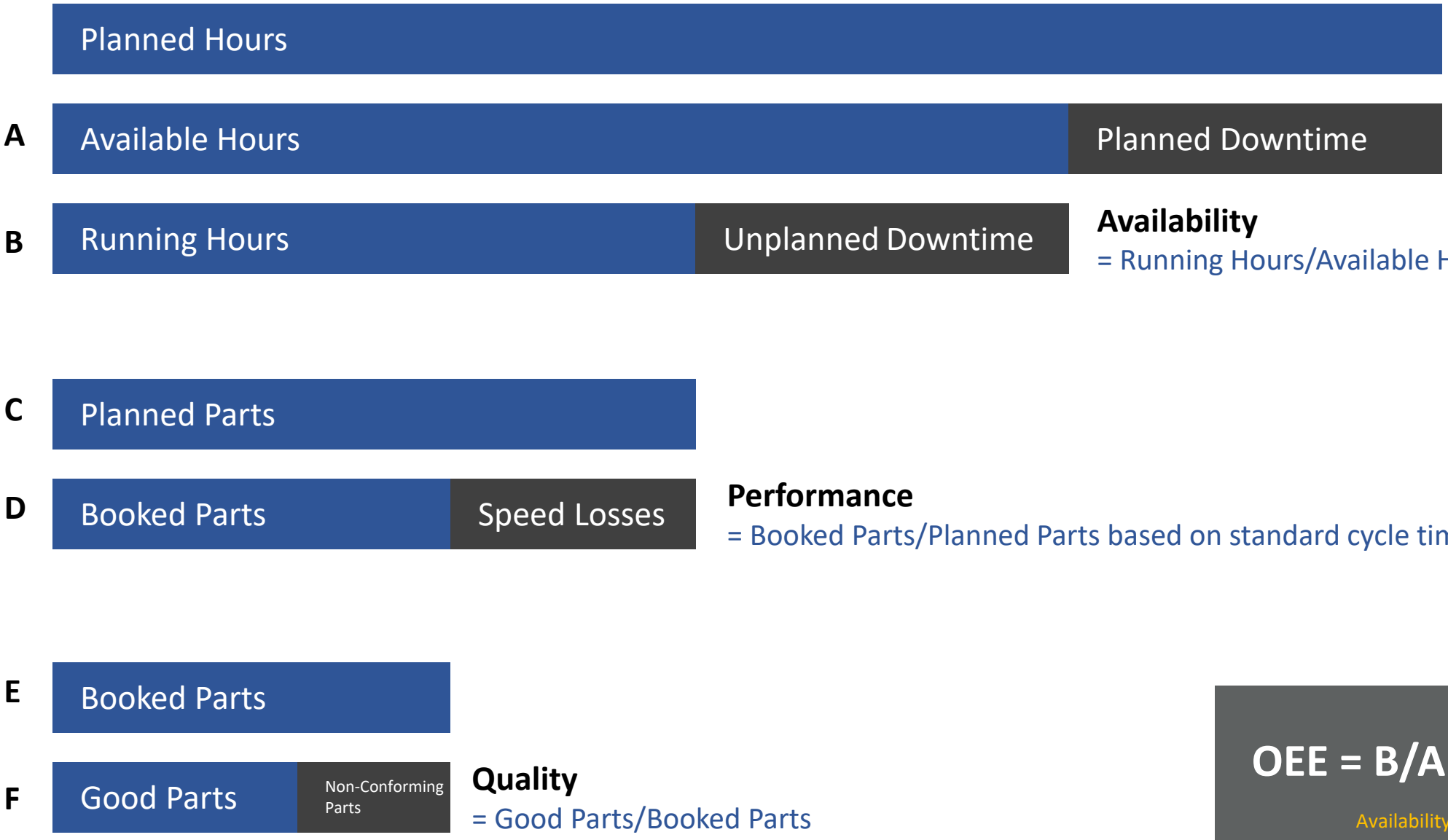

Availability
= Running Hours/Available Hours

Performance
= Booked Parts/Planned Parts based on standard cycle times

Quality
= Good Parts/Booked Parts

OEE = B/A x D/C x F/E

Availability Performance Quality

Calculating OEE

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Planned Hours – 8 hrs

A Available Hours – 6 hrs | Planned Downtime

B Running Hours – 4 hrs | Unplanned Downtime

Availability
= Running Hours/Available Hours

C Planned Parts – 4 parts

D Booked Parts – 3 parts | Speed Losses

Performance
= Booked Parts/Planned Parts based on standard cycle times

E Booked Parts – 3

F Good Parts - 2 | Non-Conforming Parts

Quality
= Good Parts/Booked Parts

OEE = 33%

Effective time = 2 hours

OEE = 4/6 x 3/4 x 2/3

Availability Performance Quality

Opportunities for improvement

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Total time lost:

Unplanned Downtime	Speed Losses	Non-Conforming Parts

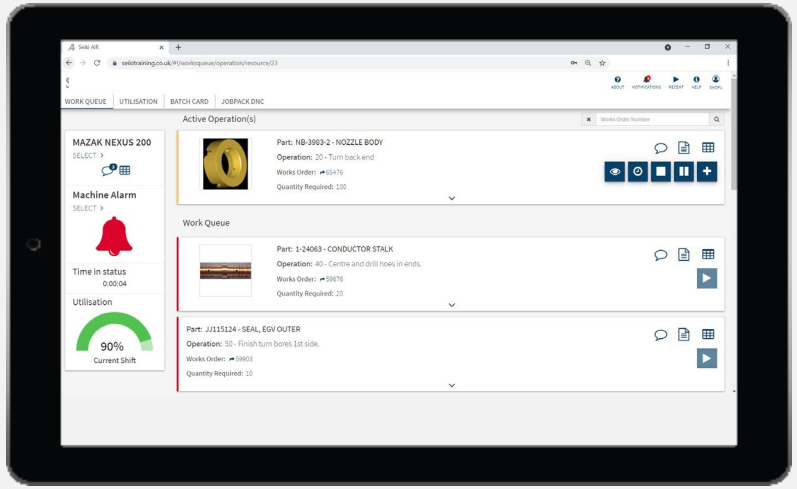
Now multiply this over all your resources and hundreds of operations!

…and when batch sizes are small, have long cycle times and/or you're running diverse products with differing cycle times, the challenge of calculating OEE is even greater.

OEE with JobPack AIR

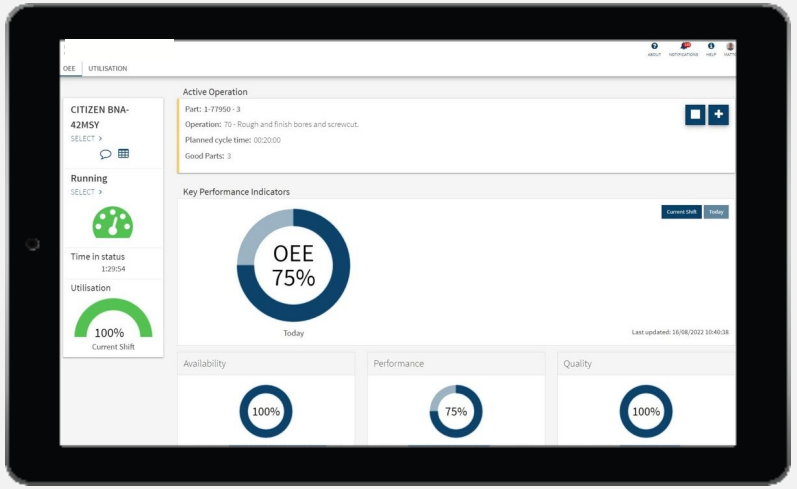
To accommodate this level of flexibility and complexity, and still achieve an accurate measure of your OEE, you need to have all the underlying data for each factor, part and resource

Option 1



JobPack AIR Monitoring + WIP Booking
(requires JobPack Scheduler or integration with 3rd Party ERP)

Option 2



JobPack AIR Monitoring only
OEE (standalone)

Using OEE

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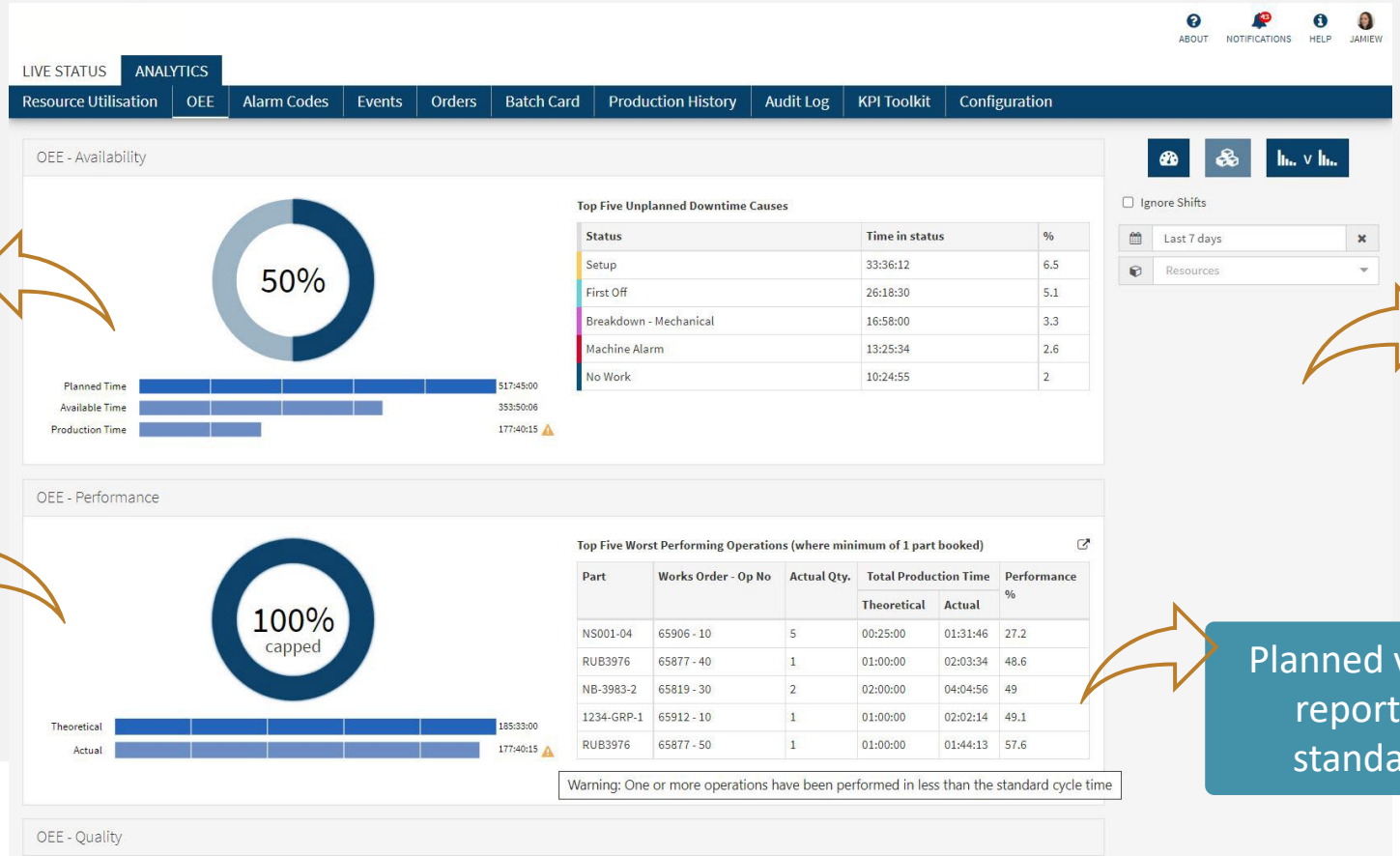
☑ OEE is a KPI that you can use to support continuous improvement and maximise the efficiency and effectiveness of your manufacturing operations

Tackle main causes of machine downtime – quick wins



Non-conforming part report –

Drill into the Production History of a part

Planned vs Actual KPI reports – adjust standard times?

Your Questions…