

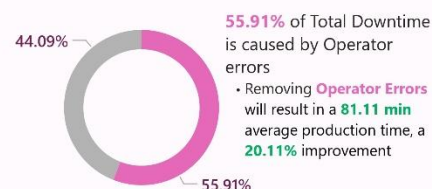
Manufacturing Downtime Analysis

Average Production Time
101.53

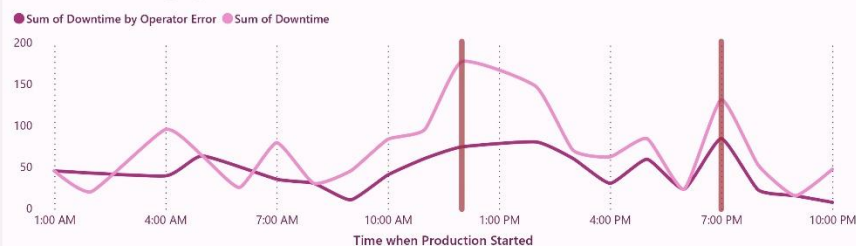
Production Efficiency
65.34%



Downtime caused by **Operator Errors** vs **Machine Errors**

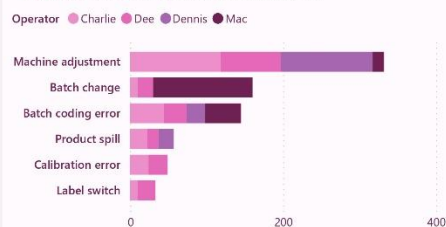


Downtime per hour **peaks at noon (12:00pm)** and at **plant closing hours (7:00pm)**. Similar trend for **Downtime caused by Operator Errors**

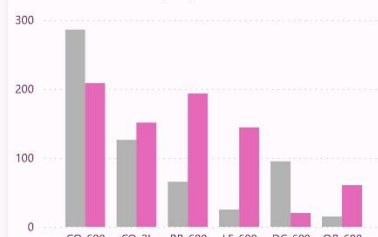


Downtime caused by **Operator per Error**

- Machine adjustment is the biggest contributor to downtime
- Mac has a large contribution to batch change error



RB-600 and LE-600 has high **Operator-caused downtime** per product



Key Insights:

- 55.91% of Total Downtime is caused by Operator Errors. Removing these will result in an 81.11 average production time, a 20.11% improvement.
- Downtime per hour peaks at noon (12:00pm) and at closing hours (7:00pm) with a similar trend for operator-caused downtime.
- Machine adjustment accounts for the highest contribution for operator-caused downtime. Interestingly, Mac accounts for the highest contribution in batch change, but the lowest contribution to machine adjustment.
- RE-600 and LE-600 has noticeably high ratio of operator-caused downtime. OR-600 is also commendable. Whereas DC-600 has a high ratio of machine-caused downtime.

Recommendations:

- Examine the area during the noon and closing hours to find the root cause of the spike. Possible causes may include but not limited to;
 - the rising Philippine temperature, making working conditions for laborers uncomfortable during noon,
 - "End of work" effect, where operators (anticipating the end of their shift) may psychologically disengage from tasks.
- Operator training to reduce the effect of man-made error. Machine adjustment training for Charlie, Dee and Dennis and batch change training for Mac is recommended. Adding standard operating procedures and kanban system may prove useful.
- Process inspection and study especially for RB-600 and LE-600 is recommended to help identify possible work errors. DC-600 machine inspection is also recommended.