



## Success Story

# 4.4% increase in productivity with ML data analysis

Our manufacturing client assembles air blowing technology that plays a key role in the final manufactured product. The high scrap rate during production, led to a significant profitability loss. The company had aimed reduce scrap waste by at least 1%. This reduction would trigger a healthy 330k savings each year.

These key metrics lay the groundwork for a strategic investment aimed at improving production processes, reducing defects in manufactured components, and increasing the accuracy of blower balancing procedures. By utilising machine learning (ML) data analytics and conducting rigorous testing, VirtusLab achieved a 4.4% reduction in the client's scrap rate, improving manufacturing efficiency. This helped facilitate smarter manufacturing processes overall.

### The Challenge

Although well-planned, the client's production process resulted in a high scrap rate. Furthermore, scraps obtained at particular points in production could not be reprocessed or repurposed. After several failed attempts to solve this issue, our clients asked themselves if repetitive rebalancing was worth performing at all. This was the point in time when our client contacted VirtusLab.





## The solution

VirtusLab (VL) received historical data about the production of two product types and collected more data to fill in some gaps. This helped the VL team to understand the manufacturing process, its technology and environment, bringing us closer to the root cause of the high scrap rate.

We created a machine learning model based on our client's know-how. Every step within the production process delivered data about step-specific errors. One error stood out during the first balancing attempt in both production processes of the two product types. The data also showed a steady increase in errors before the balancing attempt.

The model delivered predictions showing how changing specific parameters could benefit production. VirtusLab found patterns to optimise production processes and indicate when a part certainly becomes scrap. According to these findings, VirtusLab suggested eliminating more products at earlier stages.



## The results

Due to our consultancy, our client saw results in the first four days:

- Decreased overall production time, which also helped increase the number of produced goods.
- Scrap rate reduction by 4.4%.
- Enabled pinpointed analysis of specific parameters that had led to instances of production scrap.
- OEE increase by 4%.

## The tech stack



# About VirtusLab

At VirtusLab, we aim to lead in software technology, working consistently to enhance efficiency. Our profound commitment to research and development and a dedicated focus on emerging trends and inspirations fuels an innovative culture. This ethos precisely guides advancing our cutting-edge solutions, inviting collaboration to expand the boundaries of software technology collectively. We welcome you to be a part of this transformative journey.

[Let's connect](#)

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