



Waste Reduction in Line 3 Packing Area.

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Introduction.

Waste reduction is crucial for operational success in manufacturing, particularly in food production. This project targeted Fox's Burtons Companies' Line 3, the least efficient line in 2023, producing chocolate-covered digestive biscuits. Using the DMAIC framework (Define, Measure, Analyse, Improve, Control), strategic interventions were implemented to cut waste, boost efficiency, reduce costs, and enhance sustainability. By identifying and addressing the root causes of waste, the project reduced weekly waste from 4854 kg to 4187 kg. This success highlights the potential for applying these improvements across other production lines, reinforcing Fox's Burtons Companies' commitment to sustainable manufacturing.

Problem statement.

Line 3 waste for 2023 was at 5.62%. That's above budget by 1.87%. The cost of 1% waste is £64,849 per annum. The line missed budget by £121,268. Currently for 2023 waste is at 5.31% which is 1.56% over Budget (total Line Waste). Due to the site running over 10 lines it is important that we reduce to waste as much as we physically can. By carrying out this project it will hopefully increase our overall profit and performance across the site.

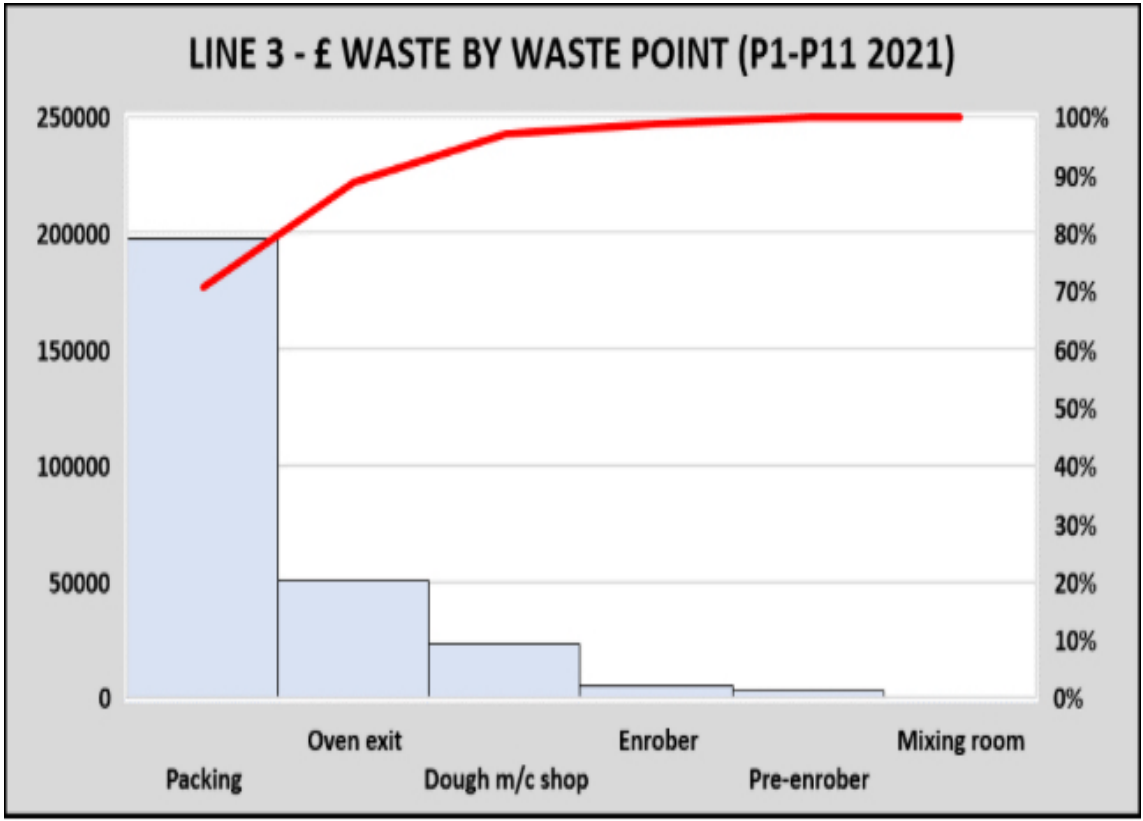


Figure 5- Graph showing areas of line 3 producing most waste.

Area	Waste Kg
A Channeling Board	28.72
B Channeling Board	18.49
A Vibrators	55.33
B Vibrators	22.05
A Vee Belt	16.28
B Vee Belt	28.45
A Floor	7.35
B Floor	10.54

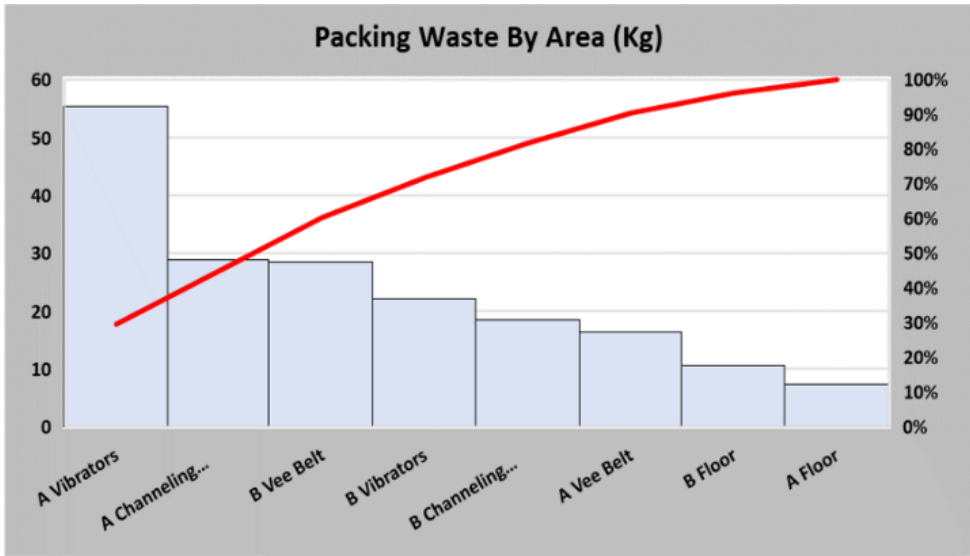


Figure 2- Areas focussed on during the project.

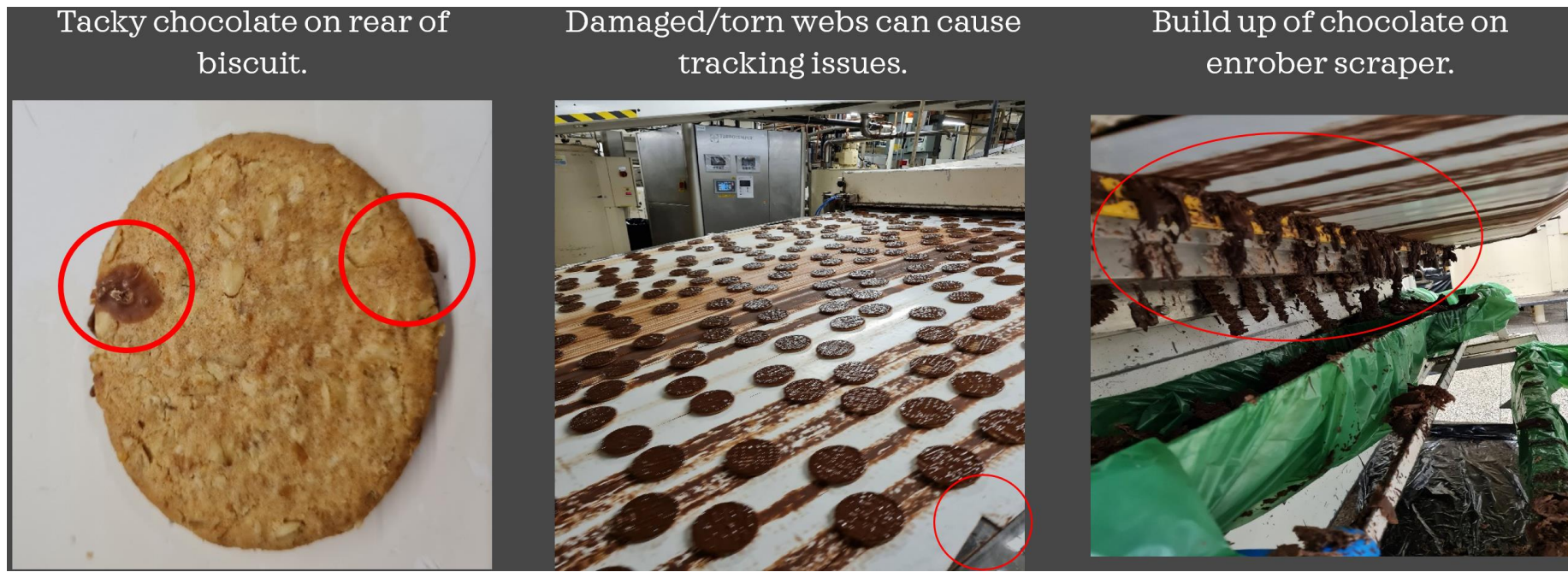


Figure 4- Some found issues whilst investigating the area of scope.

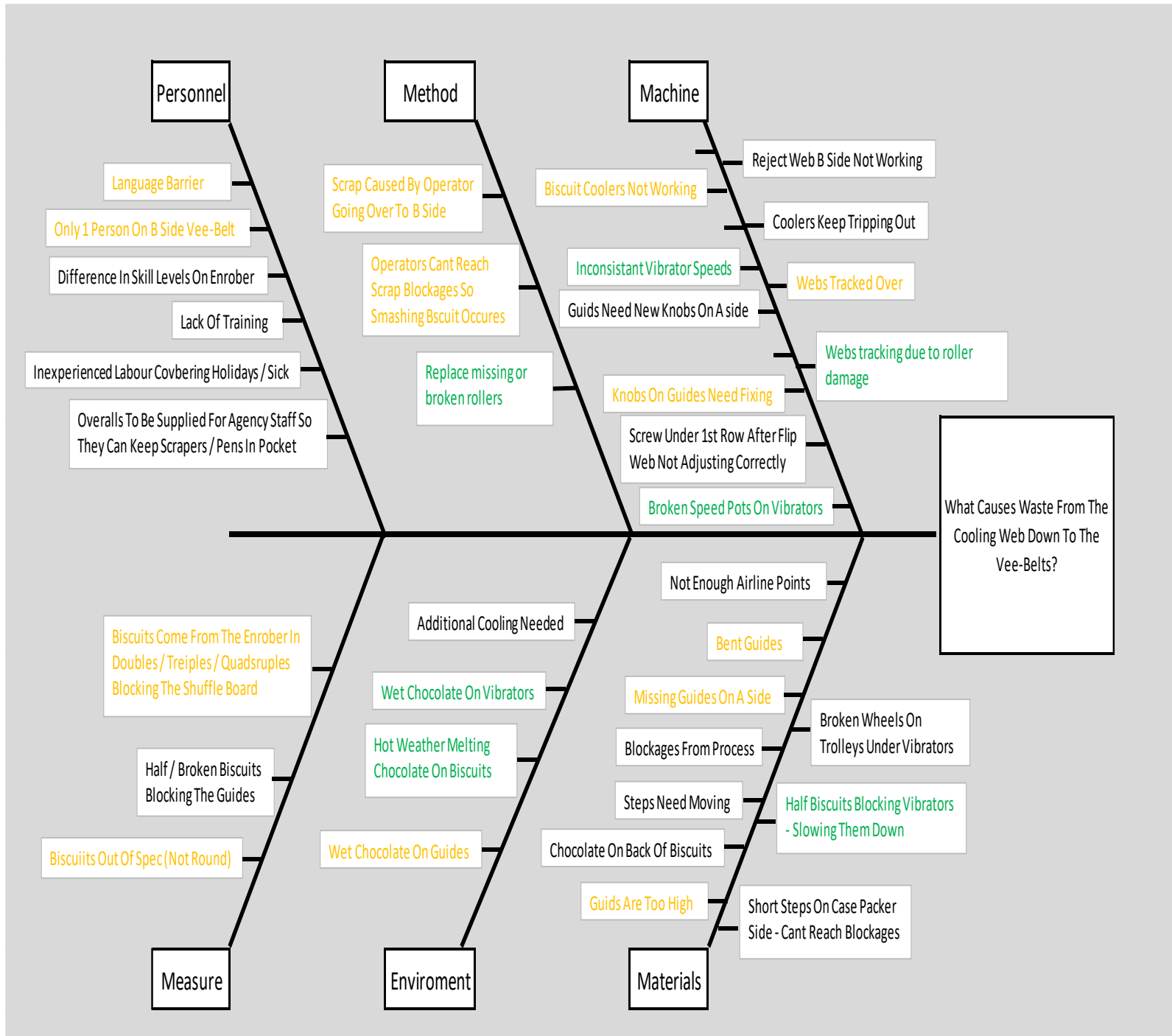


Figure 3- Fishbone diagram carried out on Line 3 packing area.



BEFORE	AFTER	
Average weekly Packing Area Waste (Kg)	Average weekly Packing Area Waste (Kg)	Weekly Improvement
4854	4187	667

No. weeks per year (*excluding shutdowns)	Annual waste reduction (kg)
50	33350

Ingredient cost per Kg	Annualised £ waste reduction
£0.9823	£32,760

Figure 1- A simple table showing difference made after the project was completed.

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- A. Murray, B Shift Fitter
- T. Cotterill, B Shift Fitter
- A. Thorn, Dissertation Officer

Their expertise were instrumental in the success of this waste reduction project.

References.

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- <https://www.neweramachines.com/blog/new-age-biscuit-handling-systems/#:~:text=Intelligent%20biscuit%20handling%20systems%20that,of%20the%20entire%20production%20line.>