

# Last Mile Delivery Quantum Inspired Optimization

Daily optimisation of consignment allocation across the network for best utilisation of assets considering all possible permutations to reduce delivery costs

## Challenges

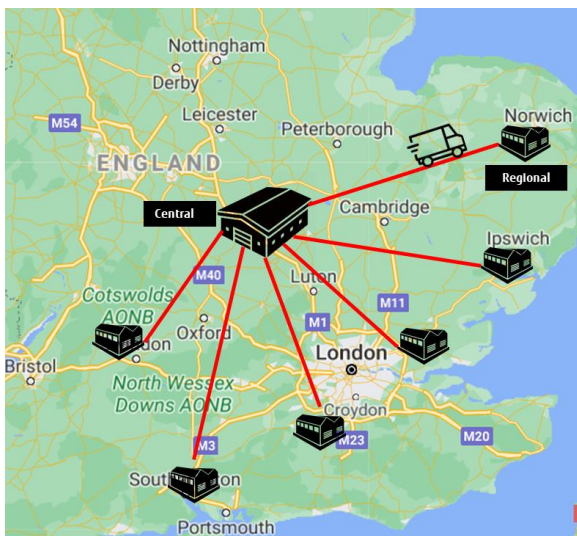
- "On time, in full" delivery performance to meet SLAs
- Reduce cost per parcel to increase profitability
- Increase delivery capacity to meet growing & seasonal demand

## Solution

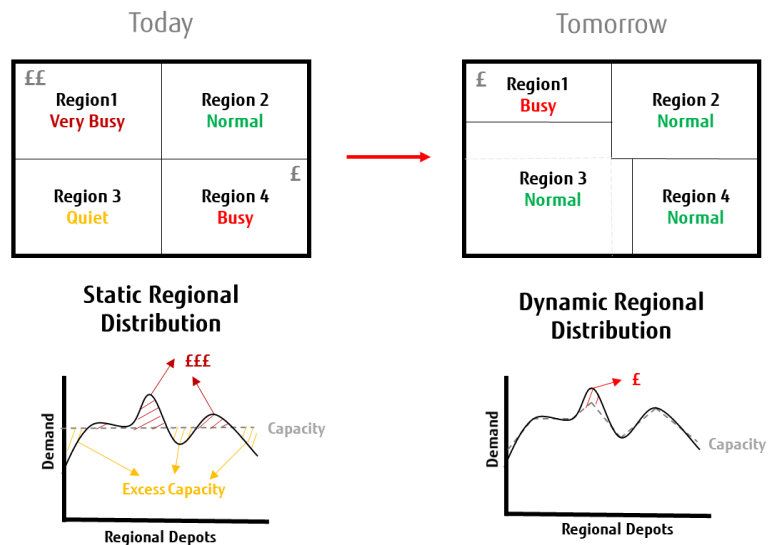
Optimise daily allocation of consignments across the network for best utilisation of assets considering all possible permutations to reduce delivery costs. Quantum inspired performance enables daily flexing of delivery areas that currently would be periodically optimised. Boundary routes can be dynamically allocated to adjacent regions with spare capacity.

The approach uses available capacity in adjacent regions to flatten the peak of busier regions through dynamically shifting the distribution areas. This increase in operational resilience and agility reduces to the need for spot hiring additional vehicles and labour or impact on missed SLAs.

The solution integrates into your existing software to provide a more optimal output, whilst minimising the risk, disruption and cost of deployment.



## Evolution of Last Mile Delivery Operations



## Benefits within 12 months

- Increased customer satisfaction & retention through meeting more SLAs
- Greater resilience and efficiency in meeting surges in demand (COVID, peak period etc.)
- Increased profitability with decreased cost per parcel through more agile delivery operations

## References

- 8% capacity increase & 7% cost reduction in last mile delivery for [Japan Post](#)
- 2-5% cost reduction in supply chain logistics for [Toyota Systems](#)
- 90% performance increase on existing logistics algorithms for [US Defense Department](#)