**Aim:** Define a suitable composite material to be adopted in the development of the new Cash In Transit box at Spinnaker International Limited

1. Define potential fibre reinforcement architecture
2. Source Laminate properties of the selected reinforcement
3. Define potential laminate stacking sequence
4. Implement Properties and stacking sequence in LAP
5. Computational simulation of laminates adopting estimated impact loads
6. Estimate forces produced by the impact testing
7. Source suitable constituents in the ACMC lab at the UoP in relation to the laminate layup defined through LAP
8. Define a suitable laminate layup for the test samples
9. Manufacture test samples by resin infusion under flexible tooling
10. Carry out three-point bending test on specimens
11. Analyse load-deflection curves to define laminate flexural properties
12. Analyse failure modes induced by impact testing
13. Produce a full size model of the outer shell of the CIT box with the selected laminate
14. Produce a curved test sample to monitor the impact behaviour of the laminate structure
15. Define a suitable composite laminate for the implementation in the new cash in transit outer shell
16. Define laminates to be manufactured for the test samples
17. Carry out a cost and weight analysis to ensure compliance to specification
18. Carry out impact testing on specimens
19. Analyse load-deflection curves from three-point bending test
20. Implement the results achieved in an evaluation matrix
21. Produce a curved test sample to monitor the impact behaviour of the laminate structure
22. Define a suitable composite laminate for the implementation in the new cash in transit outer shell
23. Contact suppliers to source high impact resistant constituents
24. Manufacture test samples by resin infusion under flexible tooling
25. Carry out a cost and weight analysis to ensure compliance to specification
26. Carry out impact testing on specimens
27. Analyse load-deflection curves from three-point bending test
28. Implement the results achieved in an evaluation matrix