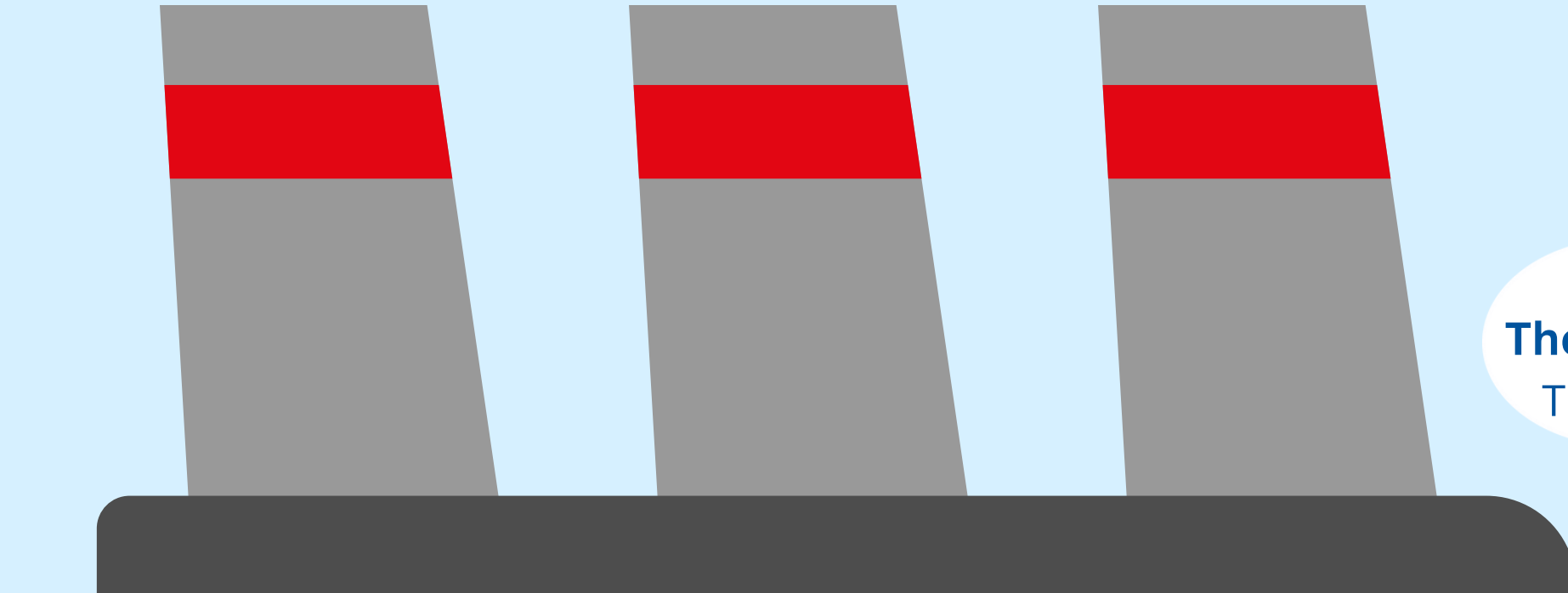


HARBOUR ST.

REFITS

IMPROVING THE EFFICIENCY OF OPERATIONAL PROCESSES THROUGH A FACILITY RE-DESIGN

HSR is a privately owned company offering marine engineering services based in the port of Cape Town



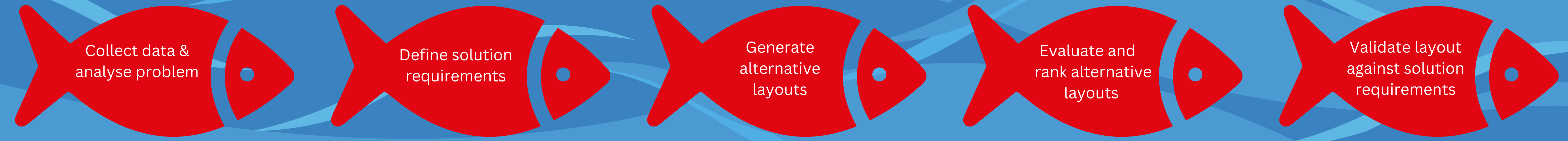
FINDINGS OF PROBLEM ANALYSIS

- Steel sheet storage and extraction process is highly dangerous and time consuming
- The workshop was found to be unorganised, materials and equipment were found out of place which reduces productivity in the workshop.
- A temporary propeller shaft workstation is occasionally erected in the driveway hindering movement within the workshop

SOLUTION REQUIREMENTS



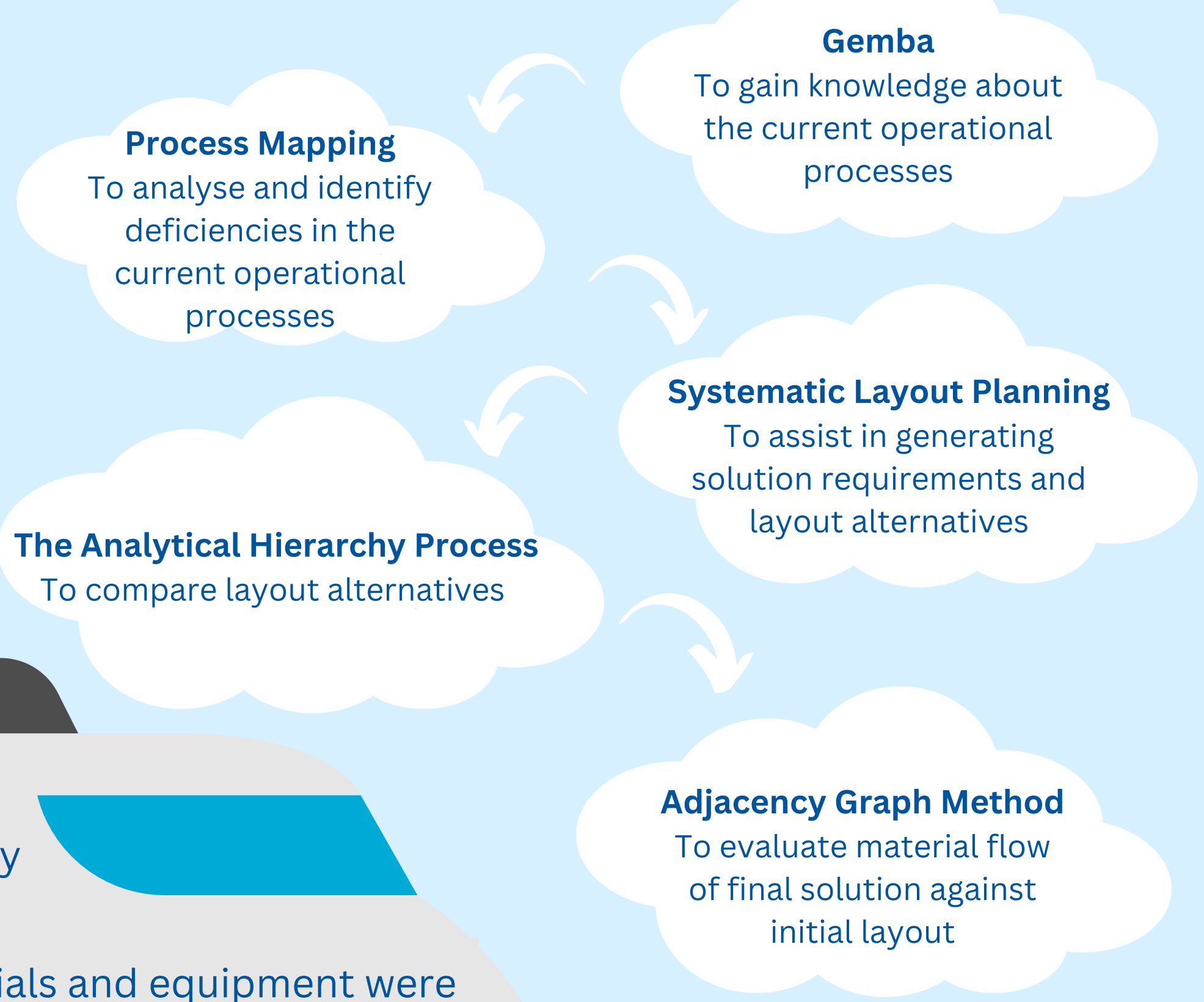
PROJECT APPROACH



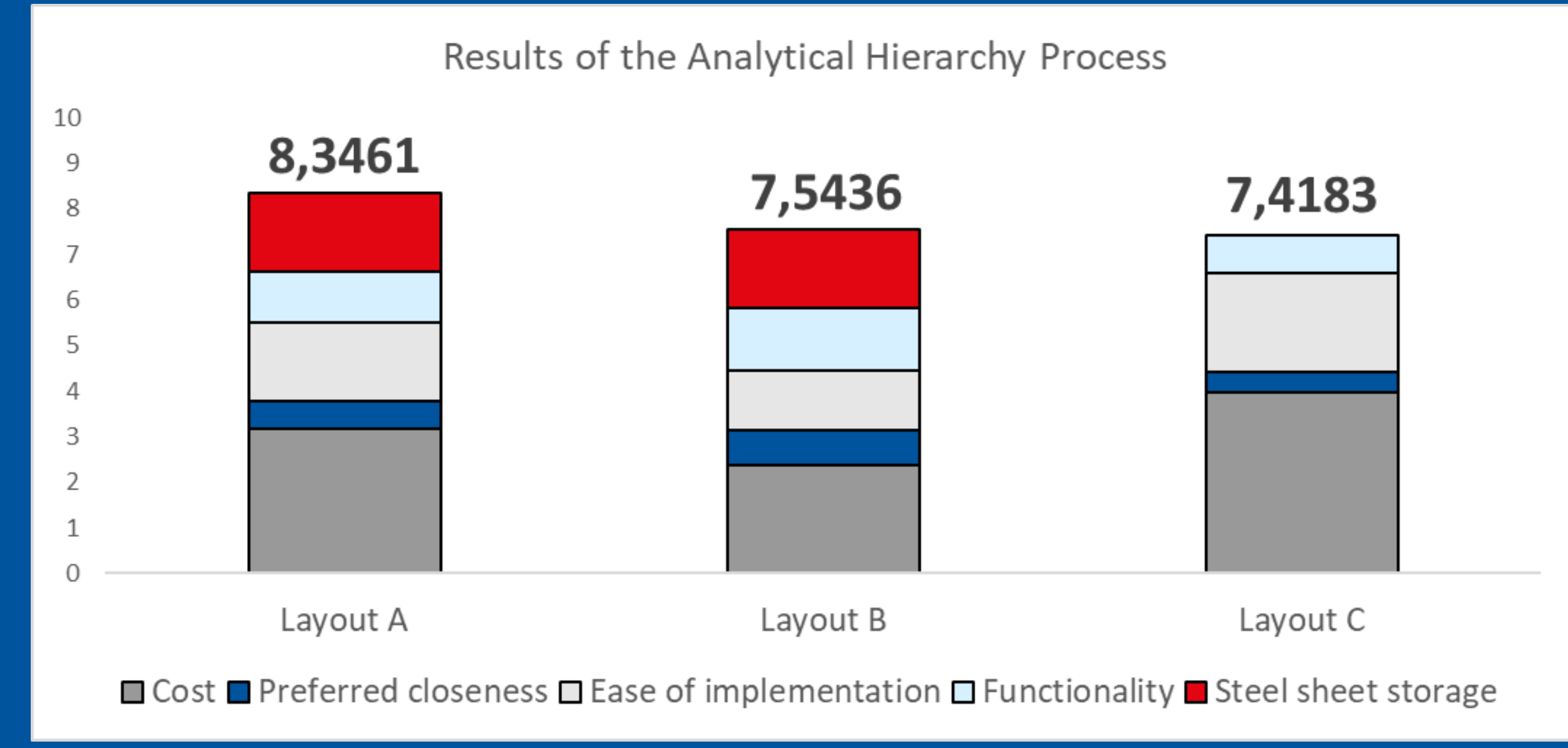
THE PROBLEM

Due to the current material handling activities and flow in the workshop, operational processes are sub-optimal

IE TECHNIQUES USED



ALTERNATIVES COMPARISON



SOLUTION

- Rotate steel sheet storage 90° to become parallel with the metal beam
- Re-position cutting area directly under the same metal beam that is responsible for handling the steel sheets
- Reduce cutting area and steel frame storage by 20 m2 each
- Introduce a 20 m2 propeller shaft workstation directly under the central metal beam of the workshop

VALIDATION

- The adjacency graph method was applied to both the old and new layouts to evaluate their material flow. The new layout obtained an arc score 5 points higher than that of the old layout
- Provision of ideal space for workstations promoting workplace organisation
- Improved steel sheet storage streamlining the steel sheet extraction process
- Permanent propeller shaft workstation promoting ease of movement throughout the workshop