The main purposes of this thesis are to present a method to solve balancing problems of mixed-model production lines and to develop a computer package, using that method, for general mixed-model production lines. This software can perform simulation and animate the production lines so that users can monitor the status of the balanced lines during production.

COMSOAL (Computer Method of Sequencing Operation for Assembly Line) is the technique adopted for this method. It has been tested against others with various published cases. The results are as good or better.

This thesis also presents the application of the proposed technique and the developed software to a case study of a television assembler.