

## **ABSTRACT**

*PT. XYZ is an independent company as a subsidiary of PT. Dirgantara Indonesia (PT. DI), which is engaged in maintenance of the turbine engine used in aircraft and turbine engines used for industry. PT. XYZ accept any orders that were requested but did not consider the resources available production capacity. Because it is necessary for forecasting which will produce MPS and became the basis for the calculation of the production capacity in order to be ready for production when fluctuating demand appear.*

*From forecasting results, forecasting method that has the smallest error rate is a Monte Carlo simulation with 91% of all part number forecasting results, while for Croston's Method and Syntetos - Boylan Approximation Method has 9% of all part number forecasting results. So that the part number using Croston's method are 4108T01G01, 5043T07G02, 5034T83P12, 4053T44G01 and 6055T82P01.*

*Production capacity planning using BOLA techniques in RCCP method been conducted which result in that each machine has excess capacity, so that all demand can be fulfilled. Thus the production capacity planning RCCP method using BOLA techniques generate several optimal alternative solutions in production capacity planning is to perform Preventive Maintenance, and undertake production parts are to be used to facilitate the repair process.*

**Keywords:** *Forecasting, Croston's method, Syntetos - Boylan Approximation method, Monte Carlo Simulation, Capacity Planning, RCCP.*