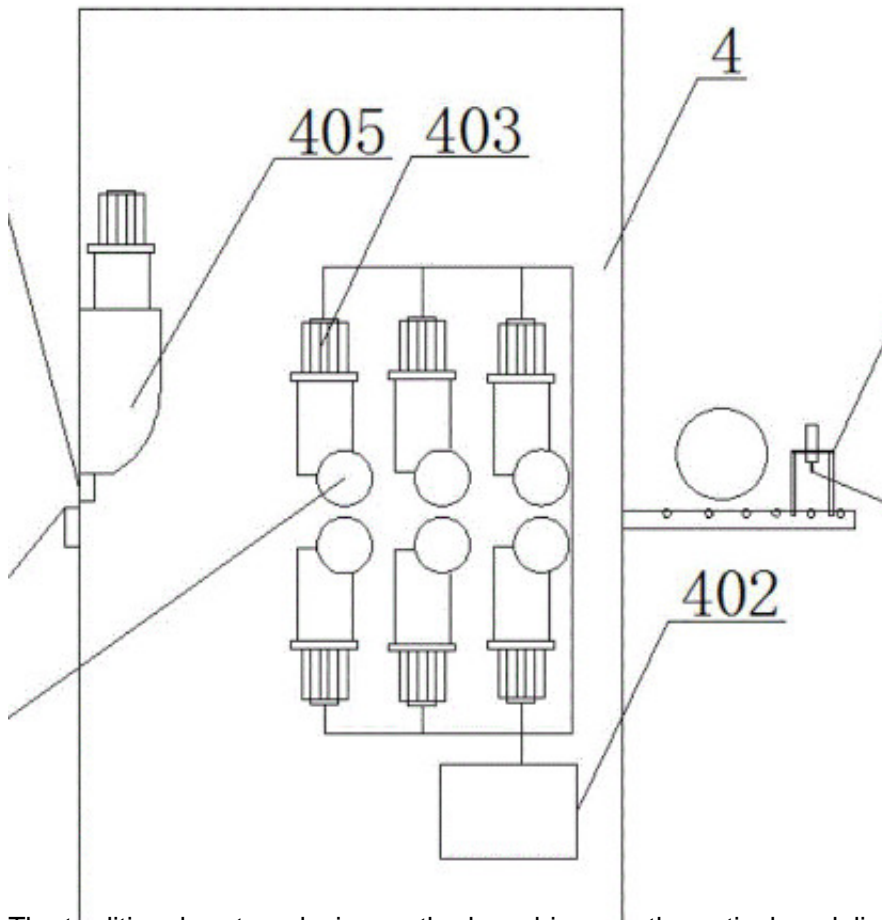


## Simulation and optimization of production line



The traditional system design method combines mathematical modeling with experience. Because of the complexity, dynamics and randomness of the production line, it is difficult to model, evaluate and optimize many features of the whole production line. Therefore, using full-[automatic production line](#) to evaluate and analyze the production system, find bottlenecks and find improvement measures can effectively avoid the waste of manpower, funds and resources.

[Microwave drying of machinery and equipment](#) has effectively accelerated the modeling of virtual equipment, process and control. Aiming at the flow shop scheduling problem, Pan Fengshan et al. established a production scheduling interference management model, optimized the maximum completion time and interference objective function [8]. Menjia et al. used Witness software to simulate and model the packaging raw material warehouse of a fast moving consumer goods enterprise, which reduced the design cost.

Therefore, it is of great significance for the production and operation of modern manufacturing enterprises to simulate the operation of production lines by using simulation technology, find out the bottlenecks that restrict the efficiency of production lines, optimize the performance and improve the efficiency of equipment and production efficiency.

Based on Felxsim simulation platform, this paper models the motorcycle painting production line, obtains relevant data, finds out the bottleneck of the production line, and puts forward the optimization scheme, which is conducive to improving the production efficiency of motorcycle manufacturers and reducing logistics costs.

In the simulation of painting production line, the products in the model flow out from the generator into the temporary storage area, then go through chemical treatment, polishing, spraying, drying, polishing and other processes, and then into the temporary storage area of semi-finished products, finally to the end of the absorber.