Group technology supporting application of lean manufacturing (LM) based on a polish case study. Measurable results and real problems

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This paper describes the Group Technology supporting application of the Lean Manufacturing concept and presents the main functions and various problems tackled when implementing individual program steps such as the Group Technology classification and a coding system, application of the Group Technology in an engineering database design and autonomous maintenance or setup activities. The problem was characterized through basic objectives defined for actions, the Lean Manufacturing implementation model and the fulfillment of KPIs (key performance indicators). The final section addresses the results obtained, sets out recommendations (conclusions) for further action and describes the key problems arising in the course of implementation. The case study provided in the paper concerns implementation of the Group Technology supporting Lean Manufacturing in the metal and mechanical industry. The implementation model described can be adapted to other companies operating in this sector. © 2018, Springer International Publishing AG.

Autonomous maintenance

Continuous improvement

Group technology

Lean manufacturing

Waste elimination

Agile manufacturing systems

Application programs

Benchmarking

Classification (of information)

Ergonomics

Group technology

Manufacture

Continuous improvements

Engineering database

Implementation models

Key performance indicators

Manufacturing concepts

Manufacturing implementations

Technology classifications

Waste eliminations

Lean production