A strategic evaluation approach for defining the maturity of manufacturing technologies

Due to dynamic evolution, the ability of a manufacturing technology to produce a special product is changing. Therefore, it is essential to monitor the established techniques and processes to detect whether a company’s production will fit future circumstances.

Concerning the manufacturing technology planning process, companies must decide when to change to a new technology for maintaining and increasing competitive advantages. In this context, the maturity assessment of the focused technologies is crucial.

This article presents an approach for defining the maturity of a manufacturing technology from a strategic point of view. The concept is based on the approach of technology readiness level (TRL) according to NASA (National Aeronautics and Space Administration), but also includes dynamic changes. Therefore, the model takes into account the concept of the technology life cycle. Furthermore, it enables a company to estimate the ideal date for implementation of a new manufacturing technology.

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