Process chain modeling and selection in an additive manufacturing context

This paper introduces a new two-dimensional approach to modeling manufacturing process chains. This approach is used to consider the role of additive manufacturing technologies in process chains for a part with micro scale features and no internal geometry. It is shown that additive manufacturing can compete with traditional process chains for small production runs. Combining both types of technology added cost but no benefit in this case. The new process chain model can be used to explain the results and support process selection, but process chain prototyping is still important for rapidly evolving fields like additive manufacturing.

General information
Publication status: Published
Organisations: Department of Mechanical Engineering, Manufacturing Engineering
Contributors: Thompson, M. K., Stolfi, A., Mischkot, M.
Number of pages: 10
Pages: 25–34
Publication date: 2016
Peer-reviewed: Yes

Publication information
Journal: CIRP Journal of Manufacturing Science and Technology
Volume: 12
ISSN (Print): 1755-5817
Ratings:
Scopus rating (2016): CiteScore 2.76 SJR 1.107 SNIP 2.083
Web of Science (2016): Indexed yes
Original language: English
Keywords: Manufacturing process, Concurrent engineering, Additive manufacturing
DOIs: 10.1016/j.cirpj.2015.09.005
Source: PublicationPreSubmission
Source-ID: 119096903
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review