2016 IEEE European Technology and Engineering Management Summit (E-TEMS 2016)

Frankfurt, Germany 3-4 November 2016



IEEE Catalog Number: ISBN:

CFP16H96-POD 978-1-5090-5031-4

Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP16H96-POD

 ISBN (Print-On-Demand):
 978-1-5090-5031-4

 ISBN (Online):
 978-1-5090-5030-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



TABLE OF CONTENTS

Identification of Approaches for Remanufacturing 4.0	1
Steffen Butzer, Daniel Kemp, Rolf Steinhilper, Sebastian Schötz	
A Systems Engineering Approach to Systematic Innovation in an Industry-University Collaboration	7
Stephen E. Cross, Thomas Felis	
Impacts of 3D Printing on the Development of New Business Models: Technology and Service	
Complementarity in Industry 4.0	14
Jose Orlando Montes	
Performance Drivers in New Product Development - Evidence from Expert Interviews	23
Benedict Pflaum, Marion A. Weissenberger-Eibl	
Initial Thoughts on Measuring and Managing Difficulty	31
Dean Beale, Michael Young	
Measuring the Technological Innovativeness of Petroleum Firms in an Emerging Economy like	
Nigeria	37
Gordon M. Bubou, Joe E. Amadi-Echendu	
Author Index	