IFIP WG 5.7
Computer-Aided Production Management
(Founded 1978)

Historic overview

Asbjørn Rolstadås
Norwegian University of Science and Technology
What is IFIP?

- First World Computer Congress, Paris 1959
- IFIP founded in 1960 under the auspices of UNESCO
- Isaac L. Auerbach first President
- Any national computer society may apply for membership – membership restricted to one society per country
- Activity: congress, conferences, publications
- Organization

Isaac L. Auerbach
CIRP Delphi Survey 1974

• By 1980, a computer software system for full automation and optimization of all steps in the manufacturing of a part will be developed and in wide use.

• By 1985, full automation and optimization of complete manufacturing plants, controlled by a central computer, will be a reality.

• By 1990, more than 50% of the machine tools produced, will not have a «stand-alone» use, but will be part of a versatile manufacturing system, featuring automatic part handling between stations, and being controlled from a central process computer.
Late 1970ies – CAD/CAM/CIM

• CAD
  • Product modelling
  • Bezier-curves

• CAM
  • Automation of process and operations planning
  • Numerical control of machine tools (PROLAMAT)
  • APT, EXAPT

• CIM
  • Integration concept launched by E. Merchant

• Shift in focus from design and manufacturing technology towards planning and control of operations
TC 5 in 1978
Computer Applications in Technology

• WG 5.1 Transportation
• WG 5.2 Computer-Aided Design (CAD) founded by Jakob Vlietstra chaired by Ernie Warman
• WG 5.3 Computer-Aided Manufacture (CAM) founded by Jozsef Hatvany chaired by Detlef Kochan
• WG 5.4 Standardized Hardware and Software Techniques
• WG 5.5 Continuous Process Industries
• WG 5.6 Maritime Industries
TC 5 meeting, Grenoble, 1978

• Chairman Jacob Vliestra
• Proposal for a new WG
• Resistance from 5.2 and 5.3
• Strong support from Jozef Hatvany
• Recommendation to GA to create WG 5.7 Computer-Aided Production Management
• Decided by GA in Oslo, 1978
MINUTES OF THE 1ST MEETING IN IFIP WG 5.7, AUGUST 31, 1979

10.00 hours, ELECTRIC POWER ENGINEERING DEPARTMENT, TECHNICAL UNIVERSITY OF DENMARK, LYNGBY, DENMARK

Attendants: G. Doumeingts (France)  
P. Falster (Denmark)  
R.B. Mazumder (Switzerland)  
E. Printz Moe (Norway)  
A. Rolstadås, Chairman (Norway)  
B. Svårdson (Sweden)  
H. Wildemann (West Germany)

1. Opening

A. Rolstadås opened the meeting as chairman and welcomed the participants. He gave a short retrospect for the establishment of the working group and expressed his sincere hope for a fruitful work in the group the coming years.
WG 5.7 Chairmen

Asbjørn Rolstadås
1978-1983

Peter Falster
1983-1989

Guy Doumeingts
1989-1995

Eero Eloranta
1995-2001

Umit Bittici
2001-2007

Marco Taisch
2007-2013

Dimitris Kiritsis
2013-2019

Gregor von Cieminski
2019 -
WG 5.7 activities

- Conferences
- IFIP state-of-the-art books
- International journal, 1989
- Joint research (FOF), 1989
- Special Interest Groups
  - Experimental and Experiential Learning in Industrial Engineering and Management
  - Product & Asset Lifecycle Management
  - Service Engineering
  - Smart Manufacturing
First APMS in Bordeaux 1982

It is a great pleasure for me and certainly for all the pioneers who participated to the first APMS in 1982, to know that the participants to APMS 2019 will celebrate this anniversary in Austin. I thank the organizers of APMS 2019 for this ceremony.

I would like to join you in such event, but unfortunately I have to contribute, for beginning of September, to the launching of the new strategy for the development of INTEROP-VLab.

I regret a lot to not be with you, but Asbjorn who has played a very important role in the creation of IFIP WG 5.7, is the right person to represent all these pioneers that you will see on the photography taken before the banquet of APMS 1982, in front of the Chateau de Vayres near Bordeaux.
Participants at APMS, Bordeaux 1982
APMS 1982 Program Committee

INTERNATIONAL PROGRAMME COMMITTEE

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P. TIMM (LK-BES) (DK)
P. URONEN (University of Oulu) (SF)
H. WILDEMAN (Indust. Betriebswirtschaftslehre zu Köln) (D)
H. YOSHIRANA (University of Tokyo) (J)
John L. Burbidge (1914-1994)

- The Principles of Production Control 1962
- In strong opposition to MRP
- PFA and PBC
- Burbidge Award 1995
  - Author(s) of the best paper
  - Person(s) that made the best presentation.
Part I
Stages of Development in Production Management
Chapter 1. Production Management Systems
Asbjørn Rolstadás ................................................. 3

Part II
Production Management Philosophies
Chapter 2. MRP/MRP II
John Harhen ...................................................... 23
Chapter 3. Just-in-Time Production — A New Formulation and
Algorithm of the Flow Shop Problem
Hajime Yamashina ............................................. 37
Chapter 4. The Drum-Buffer-Rope (DBR) Approach to Logistics
Oded Cohen ..................................................... 51
Chapter 5. Period Batch Control
John L. Burbidge ................................................. 71
Chapter 6. All-Embracing Production Control
Gideon Halevi ................................................... 77

Part III
Fundamental Techniques
Chapter 7. Graph Theoretical Approaches
Peter Falster ..................................................... 97
Chapter 8. Simulation and Simulation Models
Jim Browne ...................................................... 123
Wing S. Chow, Sunderesh Heragu, and Andrew Kusiak .... 135
Chapter 10. Artificial Intelligence Approach to Production Planning
Andrew Kusiak ................................................. 149

Part IV
The Computerized Production Management System
Chapter 11. Databases
Johan C. Wortmann ............................................ 169
Chapter 12. User Interface
Eero Eloranta ................................................... 181
Chapter 13. Systems Analysis Techniques
Guy Dounneings ............................................... 201
Chapter 14. Fourth Generation Languages
Jarle Aaram .................................................... 225
Chapter 15. Design of a Generalized Job Shop Control System
and PM Packages
Harinder Jagdev ............................................... 233
Chapter 16. Validation of Job Shop Control Software — A Case Study
Harinder Jagdev ............................................... 253

Part V
Some Important Aspects of Production Management Functions
Chapter 17. Production Scheduling
John R. King .................................................... 267
Chapter 18. Production Planning and Scheduling in Flexible
Manufacturing Systems
Kathryn E. Stecke ............................................. 281
Chapter 19. Forecasting and Stock Control
Birger Rapp ................................................... 289
Chapter 20. Integration of PM into CIM
Gideon Halevi ................................................... 303

Part VI
Industrial Applications
A Problem Revisited
Samuel Illon ..................................................... 319
Chapter 22. Production Control in Small Companies
Kai Mertins ..................................................... 345
Chapter 23. Production Control in the Car Industry
Wolfgang D. Thuro ............................................ 355
Chapter 24. Production Control in the Aircraft Industry
Bernd Hirsch and Gustav Humbert ................. 363
Chapter 25. Job Shop Production Control
Oddmund Oterhals ........................................... 375
Chapter 26. Production Control in the Electromechanical Industry
Siegfried Augustin .............................................. 385
Chapter 27. Production Control in the Electronics Industry
Ichiro Inoue .................................................... 393
PPC

From the first editorial (Asbjørn Rolstadås):
Why a new journal?
This journal is intended as a forum for all PPC-related activities, from the point of view of both academic research, and industrial application and development.

From the editorial of volume 11 no. 4 (Stephen Childe):
A word from the new editor
One day in November 1999, I received an unusual e-mail enquiring as to weather I would be interested in discussing the editorship of PPC. ............... PPC has always had the aim of developing a greater understanding between researchers and managers in industry by publishing articles on research and industrial applications, new techniques and development trends. This shared value of practical, useful research is one of the reasons why I feel very happy to take over the editorship.
Joint projects

Factory of the Future: Towards an integrated theory for one-of-a-kind production

- Integration of several fragmented theories about the (re)design of production systems
- The theoretical framework consists of three views: the workflow view, the resources view, and the organizational/decisional view
- The design framework consists of a connectance network of design choices (DC's), performance indicators (PI's), and relationships between DC's and PI's.
First Special Interest Group
Experimental Interactive Learning in Industrial Management

At the APMS 1993, Athens, Greece, Professor Jens Ove Riis organized a workshop and exhibition of games as part of the activities of IFIP WG 5.7. This meant the birth of the idea to form a SIG in the field.

• First workshop at Aalborg University, 1994
• Chairpersons:
  1993-1999 Professor Jens Ove Riis at Aalborg University
  2000-2015 Professor Riitta Smeds, Aalto University
  2016- Lecturer Nick Szirbik, University of Groningen
Co-Designing Serious Games
15th IFIP WG 5.7 SIG workshop, Aalto University, 2011
Some reflections

• Unlike many of the other groups, why has WG 5.7 survived?
  • Ability to renew both with respect to membership, organization and activity
  • Need for a forum for research, publication and international cooperation

• Will it still survive?
  • Climate change effect
  • Social media visibility
  • Connection to industry

• Why is it needed?
  • A guaranty for a high scientific standard
  • Future industry is dependent on the research and education in production management