Introduction

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Biographical notes: Erik Demeulemeester is a Professor of Operations Management at KU Leuven. He received his PhD from KU Leuven on optimal algorithms for various classes of multiple resource-constrained project scheduling problems. His current research topics involve proactive-reactive project scheduling, surgery room scheduling, shift scheduling and the bidding in public private partnerships.

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Between April 1 and April 4, 2012, the 13th International Conference on Project Management and Scheduling was held in Leuven (Belgium). Over one hundred researchers from all over the world gathered there to present their most recent research results on project and machine scheduling. At this occasion, a special issue of the *European Journal of Industrial Engineering* was announced. By the end of 2012, six papers were received for this special issue. A careful review process resulted in only two papers being accepted for the special issue.

The paper 'Grid scheduling by bilevel programming: a heuristic approach' considers a set of independent tasks that are submitted to a grid external scheduler. These tasks have to be assigned by the external scheduler to a set of grid computing sites, each one of them being controlled by a local scheduler. Moreover, each task has a release date as well as a due-date, that can be exceeded at a certain cost. The external scheduler attempts to execute the different tasks over the grid, minimising the total cost for rejecting or delaying tasks, whereas the goal of each local scheduler is to maximise the computational resource usage efficiency. This problem is modelled by means of bilevel programming and is solved by a heuristic algorithm.

The paper 'Scheduling optimisation of a real flexible job shop including fixture availability and preventive maintenance' considers a real multitask cell at GKN Aerospace Sweden, which is a flexible flow shop containing ten resources aimed at being flexible with regard to product mix and processing types. A time-indexed formulation of the problem is presented, where the objective is to minimise a weighted sum of the completion times and tardiness for the jobs. A fast iterative approach for finding a suitable value of the length of the time horizon for the time-indexed formulation is proposed, having a considerable impact on the resulting computation time.