ACHIEVEMENTS AND LESSONS LEARNED FROM A LONG-TERM ACADEMIC-INDUSTRIAL COLLABORATION

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ABSTRACT

I had the opportunity to work for about 14 years on many different projects with two manufacturing sites of the French-Italian semiconductor company STMicroelectronics. Supported by European, national and industrial projects, this still active long-term academic-industrial collaboration led to many scientific and industrial achievements, spreading to other companies. Through regular exchanges, engineers, researchers, PhD and Master students were able to present their problems, their advances and generate new research projects. After some history of the collaboration, the presentation will survey some of the main research and industrial results in qualification and flexibility management, production and capacity planning, scheduling, automated transportation, dynamic sampling and time constraint management. Challenges faced and lessons learned when applying Operations Research and Industrial Engineering in practice, and in particular in semiconductor manufacturing, will be discussed. Benefits for both practitioners and researchers will be emphasized, such as the opportunity to propose and study new relevant problems and develop and apply novel approaches using actual industrial data.

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