*D. Hu, Y. Mohamed.* **Automating fabrication sequencing for industrial construction.** *Geron-technology 2012;11(2):88;* doi:10.4017/gt.2012.11.02.318.00 **Purpose** Industrial construction projects are heavily dependent on pre-fabrication of piping components. Unlike traditional manufacturing, many pipe spools have a unique design and need to be custom fabricated due to the one-of-a-kind characteristic of each industrial project. This is reflected in the fact that fabrication sequences vary greatly among pipe spools. Planning these sequences has considerable impact on the fabrication performance[1]. However, it is currently mostly done in the form of human manual input. Personal experience and judgment are the major grounds on which sequencing decisions are based. Given the enormous number of pipe spools and the fast-tracking nature of industrial projects, the efficiency and quality of such decisions cannot be guaranteed. Automating this decision-making process has the potential for overall performance enhancement, but has not yet been sufficiently investigated. **Method** We explore two different problem solving techniques, mainly artificial intelligence (AI) planning and dynamic programming (DP). A number of experiments have been conducted to evaluate their effectiveness. **Results & Discussion** The results show that AI-planning–a sophisticate planning technique–has difficulty parsing fabrication logic that is prerequisite for AI-planners to result in a solution[2]. DP, on the other hand, shows greater flexibility in incorporating this logic and a higher efficiency of discovering the optimal sequence. Future research will be aimed at incorporating the DP-algorithm with a discrete event simulation model so that fabrication sequences can be dynamically generated and adjusted to address changing project conditions.

**References**

1. Hu D, Mohamed Y. Effect of pipe spool sequence in industrial construction processes. Proceedings of the 3rd International/9th Construction Specialty Conference, Ottawa, Canada; 2011
2. Hu D, Mohamed Y. Pipe spool fabrication sequencing by automated planning. Proceedings of the Construction Research Congress, ASCE, West Lafayette, USA; 2012