

Chapter I

From Pilot to Practice — Streamlining Procurement and Engineering at Lawrence Livermore National Laboratory

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EXECUTIVE SUMMARY

In this case study we report on how Lawrence Livermore National Laboratory (LLNL) is utilizing emerging technologies to support engineering and procurement processes. In the context of a major construction project, the National Ignition Facility (NIF), scope, complexity, and tight budget and time restrictions required streamlined business operations and improved collaboration between engineering and procurement. In order to establish a unified information technology (IT) architecture, LLNL is integrating formerly isolated systems and enhancing them through internal development as well as commercial products. The result is highly customized to LLNL's needs and allows the Lab to meet the requirements of NIF-related engineering and procurement processes in terms of cost, time, quality and complexity. The project also serves as a test bed for a lab-wide, integrated IT infrastructure. This case study is a follow-up to Gebauer and Schad (1999).

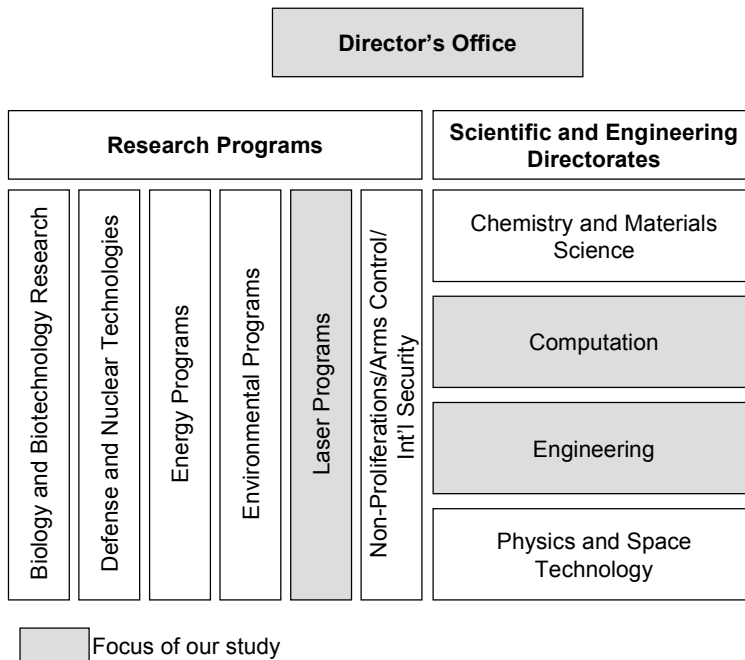
BACKGROUND

Lawrence Livermore National Laboratory (LLNL, <http://www.llnl.gov>) is a research and development facility owned by the U.S. Department of Energy and managed by the University of California. It was founded in 1952 as a sister lab to the Los Alamos National Laboratory and is located in Livermore, California.

Organization

The Lab has about 8,000 employees and an annual budget of \$1 billion. Its programs include biology and biotechnology; defense and nuclear technologies; energy programs; environmental programs; laser programs; and non-proliferation, arms control and international security. The programs are supported by several more general scientific and engineering directorates: chemistry and materials science; computation; engineering; and physics and space technology (Figure 1).

Figure 1: LLNL Organization



LLNL's Director's Office provides administrative and operational support to all programs and directorates (Figure 2).

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