National Instruments LabVIEW software is a proven graphical system design environment for developing test, control, and measurement applications. The graphical nature of LabVIEW delivers intuitive, self-documenting code that can save thousands of development hours and yield more results in less time.

**Intelligent Machine Fault Detection**  
*Kraft Foods*  
**Previous Projects:** Took 50 percent more development time  
**This Project:** Completed in five months using NI LabVIEW Graphical Programming  
**The Bottom Line:** Kraft used LabVIEW to rapidly develop a real-time detection and analysis platform for its food and coffee packaging lines. With graphical system design, the developer saw an estimated 50 percent reduction in development time.

**Aircraft Noise Emissions Measurements**  
*Boeing*  
**Previous Projects:** Took an additional 15 months and multiple developers using C  
**This Project:** Used NI LabVIEW graphical programming environment  
**The Bottom Line:** Using NI hardware and LabVIEW, a single developer designed a scalable, distributed test system in less than six months, delivering tight timing and synchronization to perform phased array data acquisition for flyover tests.

**Laser Etching Control System for Intraocular Lenses**  
*FEO Medical*  
**Previous Projects:** Required two years of development with multiple engineers  
**This Project:** 9 Months of Development with Two Developers  
**The Bottom Line:** Engineers used LabVIEW to meet a tight deadline when developing a high-resolution laser etching system for intraocular lenses used after cataract surgery. What once took years of development took only nine months and two developers.

**Trigger System for In-Flight Atmospheric Research**  
*NOAA Earth System Research Laboratory*  
**Previous Projects:** Used C language  
**This Project:** Used NI LabVIEW Graphical Programming Language  
**The Bottom Line:** Development of the highly accurate trigger system using LabVIEW was cheaper and faster than with previous hardware and software, taking only 30 minutes and making it easy to add new features and functionality.

ni.com/labview/productivity
Two students built an entire control system in just one month.

FPGA-Based Electron Beam Control System
*Oregon State University*

**Previous Projects:** Used assembly language and Visual Basic
**This Project:** Used NI LabVIEW Graphical Programming Environment

**The Bottom Line:** Two students were tasked with creating a control and interlock system for an advanced semiconductor materials research lab. The students wrote, tested, and debugged the FPGA and host code in just one month using LabVIEW.

Automated Shim Selection Machine
*Captronic Systems*

**Previous Projects:** Used PLCs, ladder logic, and IEC 1131
**This Project:** Used NI LabVIEW and NI Programmable Automation Controllers

**The Bottom Line:** Engineers used NI LabVIEW and NI PACs to build a highly flexible, rugged, and cost-effective test system. The new system increased assembly line productivity by 20X and was completed in just 23 man-days.

Industrial automation engineers built an entire machine in just 23 days.

Tropospheric Radar Wind Profiler
*Applied Technologies*

**Previous Projects:** Used Visual Basic language
**This Project:** Used NI LabVIEW graphical programming

**The Bottom Line:** Two developers used LabVIEW to design an intuitive graphical interface and a sophisticated software radio acquisition system in just 18 months. This wind profiler system delivered on-site operational support for aerostat systems.

Applied Technologies developers completed the application in 18 months.

Monitor Avionics Control Panels
*Korry Electronics*

**Previous Projects:** Took at least 16 months longer
**This Project:** Used NI LabVIEW graphical programming

**The Bottom Line:** In a project taking less time than any previous company project, engineers quickly developed test software using LabVIEW with almost unlimited control of CAN bus data, ideal for interacting with intelligent avionics control panels.

Achieved development time 16 months sooner than any previous project.

Productivity and Power

As with any full-featured programming language, it is important to employ solid software engineering principles when developing high-quality LabVIEW code. In addition to a highly active LabVIEW community, you can take advantage of LabVIEW development tools including:

- Modular, reusable code design
- Integrated source code control
- Object-oriented design
- Requirements tracking
- Training and certification programs
- Expert consultants through the NI Alliance program

>> View the complete case studies and read the productivity white paper at [ni.com/labview/productivity](http://ni.com/labview/productivity)