SIEMENS
Ingenuity for life

Creating perfect places for research

Green laboratory solutions for safe, energy-efficient operation

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Customer benefits

- Improved safety, indoor air quality, and occupant comfort
- Electricity and gas cost savings
- Fully compliant laboratory solution as per to EN 14175/SN EN 14175
- Management and control from any location
- Automated fume hoods increase efficiency

When building technology creates perfect places – that's Ingenuity for life. Never too cold. Never too warm. Always safe. Always secure. With our knowledge and technology, our products, our solutions and our services, we turn places into perfect places. We create perfect places for their users' needs – for every stage of life.

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Safety standards and energy-saving efforts can coexist successfully in laboratories today. In some countries, changes in industry codes and standards make it easier than ever to incorporate green practices into laboratory operations. Finding the right balance between efficiency and laboratory safety compliance is the key. Revisions to the codes and standards make that balance possible. They allow for reduced flows in fume hoods and fewer ventilation air changes. This leads to dramatic reductions in energy usage. New technologies that detect hazardous chemicals exposure make these air change reductions an option.

Labs outspend other departments

Why are green practices vital for laboratories? Laboratories are expensive to operate. A typical laboratory consumes five to six times more electricity than the average usage per square meter when compared to a whole university. It also uses four to five times more heating energy. Ventilation alone accounts for two-thirds of energy usage in a typical laboratory. It drives electricity, heating, and cooling consumption, far outdistancing the amount used in other settings.

Green Lab solutions reduce energy consumption

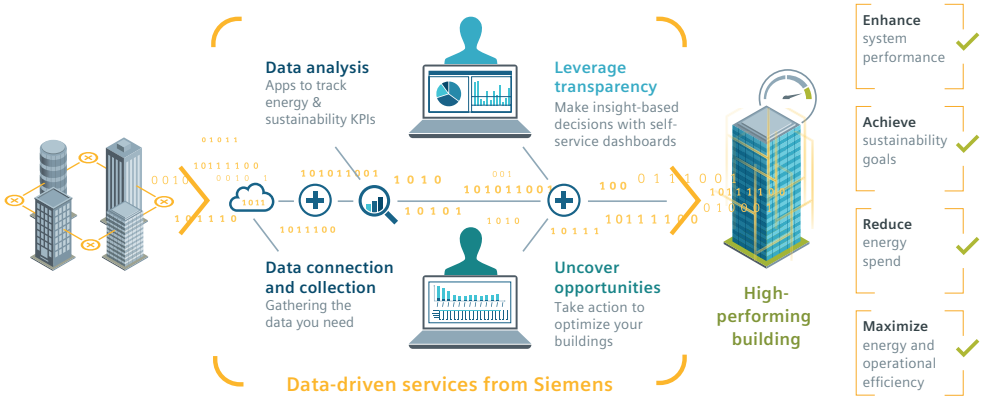
Siemens offers a suite of technologies and facility improvement measures (FIMs) designed to greatly lower energy consumption while ensuring laboratory safety and compliance. The results also improve employee satisfaction and productivity.

The process begins with an assessment focused on regulatory compliance, safety, and energy efficiency. The objective is to create an operational baseline. From there, we develop recommendations aimed at lowering energy use and provide a complete performance report. You'll be able to review defined reports using Navigator, the cloud-based energy and sustainability platform that offers powerful analytical and reporting capabilities. Navigator gives you visibility into the long-term performance of your facilities and infrastructure.

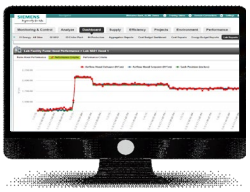
To implement the recommendations, we develop technical solutions in the form of FIMs. These fall into two categories: those that enhance and ensure regulatory compliance and those that lower energy consumption and improve efficiency.

Navigator: The cloud-based energy and sustainability platform

Turning data into results across your entire building portfolio



Laboratory performance tracking



- Laboratory comparison report
- Fume hood comparison report
- Air volume driver report
- Lab facility energy report
- Performance assurance
- Green Lab dashboard

Common deliverables include changing constant-volume fume hoods to two-position hoods or variable air volume, adding occupancy detection, and installing low-flow, high-performance fume hoods. Fume hood sash management, laboratory ventilation rate management, and exhaust system management are also implemented.

Measurement and verification ensure ongoing success

Once the installation is completed, we focus on measurement and verification to ensure ongoing success. You have a host of tools and options at your disposal. They include Navigator and laboratory dashboards, a mobile solution, real-time monitoring, data trending and archiving, reporting, alarm information and remote notification.

We also offer ongoing services designed to protect your long-term investment, maximize compliance, and maximize energy efficiency. We provide calibration services, chemical fume hood testing, bio-safety cabinet certification, re-entrainment testing, room pressurization testing, validation protocol development and execution, SOP development, and continuous commissioning.

Innovative delivery options available

To meet your financial needs, we offer a variety of innovative delivery options. For example, you can choose a Siemens Managed Service Agreement, which provides savings-based project funding. Or you can choose traditional funding for low-cost projects that include: a capital loan or leasing through financial institutions, performance contracting with guaranteed savings, or a Power Purchase Agreement (PPA) for financing projects for the production of conventional or renewable energy.

Put our years of laboratory experience throughout Europe to use with a tailored solution to meet your specific needs.

Siemens is the only building automation and control system provider with a full portfolio of laboratory controls. You can rely on our expertise in the life sciences industry and in our ability to provide services quickly and consistently across the globe.

Highlights

- Global presence and financing options
- Comprehensive, holistic solutions, including assessment, technical solutions, measurement and verification, and services
- Market-leading expertise and energy-efficiency solutions designed specifically for laboratories
- Complete portfolio of laboratory controls and experience working with all third-party controls
- Tailored solutions to meet the needs of university, healthcare, government, and industrial laboratories

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