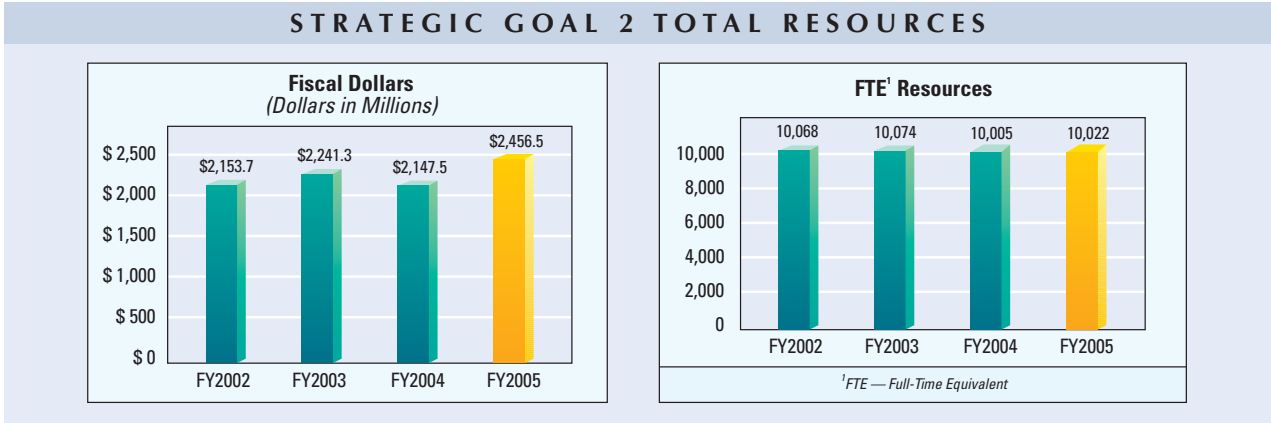


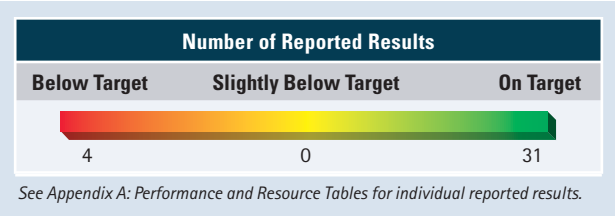


STRATEGIC GOAL 2

Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science



Working with U.S. industry to develop and apply technology, measurements, and standards, the Department of Commerce is focused on providing the infrastructure necessary to develop innovative breakthroughs and new technologies vital to the nation's long-term economic growth.



The Department's laboratories provide the measurement capabilities needed by industry to continually improve products and services. The Department's measurement and standards work addresses a significant portion of the nation's modern technology-based economy, from the automotive to the biotechnology sector, from basic materials and manufacturing to information technology (IT), and from companies with a handful of employees to the largest multi-national firms.

Intellectual property (IP) is a potent force in, and a fundamental component of, the global economy. The Department strives to preserve the nation's competitive edge by protecting IP and encouraging technological innovation. In market-driven economic systems, innovation provides a catalyst for economic prosperity through the accumulation of scientific knowledge, introduction of new products and services, and improvements in the productivity levels of land, labor, and capital resources.



A sample of significant accomplishments that the Department achieved in fiscal year (FY) 2005 includes the following:

- ◆ **Recommendations from World Trade Center Investigation.** The Department's National Institute of Standards and Technology (NIST) made 30 recommendations for improving the way people design, construct, maintain, and use buildings, especially high-rises, based on the findings of its extensive investigation of the fires and collapses of New York City's World Trade Center towers following the terrorist attacks of September 11, 2001. The recommendations also should lead to safer and more effective building evacuations and emergency responses. Contained within 43 draft investigation reports (totaling some 10,000 pages), the recommendations—and the reports—were released for a six-week public comment period. The recommendations cover specific improvements to building standards, codes and practices; changes to, or the establishment of, evacuation and emergency response procedures; and research and other appropriate actions needed to help prevent future building failures. Organizations that develop building and fire safety codes, standards, and practices, and state and local agencies and building owners will implement these recommendations.
- ◆ **Presentation of the Malcolm Baldrige National Quality Award (MBNQA).** On July 20, 2005, Vice President Cheney and Secretary Gutierrez presented four U.S. organizations with the MBNQA, the nation's highest Presidential honor for performance excellence and quality achievement. The 2004 Baldrige Award winners are: The Bama Companies, Tulsa, OK (manufacturing category); Texas Nameplate Company, Inc., Dallas, TX (small business category); Kenneth W. Monfort College of Business, Greeley, CO (education category); and Robert Wood Johnson University Hospital Hamilton, Hamilton, NJ (health care category). The MBNQA is managed by NIST in conjunction with the private sector.
- ◆ **The United States Patent and Trademark Office (USPTO).** USPTO received 380,955¹ Utility, Plant, and Reissue (UPR) patent applications for FY 2005, an increase of 7.2 percent¹ from FY 2004. USPTO published 291,221 pending applications and issued 165,485 UPR and Design patent grants. USPTO received 258,527 trademark applications containing 323,501 classes for registration, an increase of 8.4 percent from 2004. The Office registered 112,445 marks including 142,396 classes. Total office disposals were 205,378 including 252,275 classes. The inventory of total trademark applications under examination increased by 10.5 percent from 450,294 files with more than 590,155 classes at the start of the year, to 497,400 files including 653,000 classes at year end.

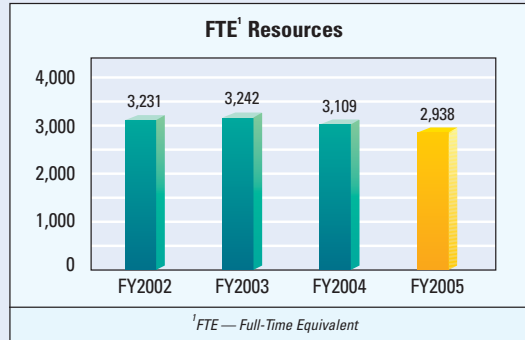
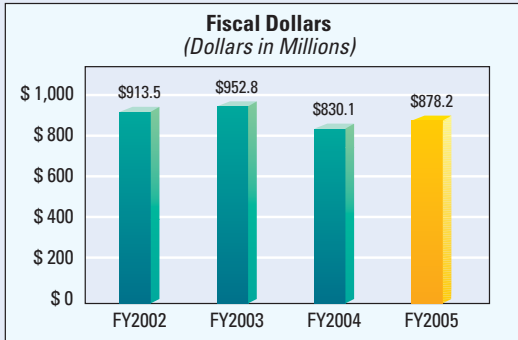
The Department has demonstrated successful progress under this strategic goal. Bureaus with programs supporting this strategic goal include the Technology Administration (TA), consisting of the Office of Technology Policy (OTP), NIST, and the National Technical Information Service (NTIS), USPTO, and the National Telecommunications and Information Administration (NTIA).

¹ This number is preliminary.

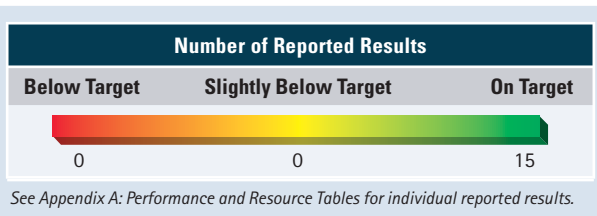
STRATEGIC OBJECTIVE 2.1

Develop tools and capabilities that improve the productivity, quality, dissemination, and efficiency of research

TOTAL RESOURCES



The Department works with U.S. industry and other stakeholders to maximize technology's contribution to U.S. economic growth. The Department fulfills its broad responsibilities and works to foster science and technological leadership by promoting new models of technology transfer and research and development (R&D) collaboration, identifying problems and barriers to innovation, enhancing technical standards, advancing measurement science, and making scientific and technical information available to other agencies and the public.



| PERFORMANCE GOAL | STATUS* |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Promote innovation, facilitate trade, ensure public safety and security, and help create jobs by strengthening the nation's measurements and standards infrastructure (TA/NIST) | ● |
| Accelerate private investment in and development of high-risk, broad-impact technologies (TA/NIST) | ● |
| Raise the productivity and competitiveness of small manufacturers (TA/NIST) | ● |
| Enhance public access to worldwide scientific and technical information through improved acquisition and dissemination activities (TA/NTIS) | ● |
| * ● = MET (100%) ● = SIGNIFICANTLY MET (75% - 99%) ● = NOT MET (< 75%) | |

Among its activities, TA accomplished the following in FY 2005:

- ◆ **Issued Standard for Employee and Contractor Identity Verification.** In February 2005, Secretary Gutierrez approved a new standard for a smartcard-based form of identification for all federal government departments and agencies to issue to their employees and contractors requiring access to federal facilities and systems. The new standard will enable federal agencies to issue more secure and reliable forms of identification to better protect federal assets against threats such as terrorist attacks. It also will help safeguard against other risks such as identity theft. The Department's National Institute of Standards and Technology (NIST) worked closely with other federal agencies, including the Office of Management and Budget (OMB); the Office of Science and Technology Policy; and the Departments of Defense, State, Justice, and Homeland Security; as well as private industry to develop the standard called for by President Bush in Homeland Security Presidential Directive #12. Federal Information Processing Standard (FIPS 201), "Personal Identity Verification of Federal Employees and Contractors," also reflects comments received from more than 80 organizations and individuals.
- ◆ **Advanced Research Toward More Powerful Computers.** Researchers at NIST made several advances that could help make powerful quantum computers a reality. They developed a practical method for automatically correcting data-handling errors in quantum computers, took an important step toward the possible use of "artificial atoms" made with superconducting materials for storing and processing data, and proposed a quantum computing architecture that could produce reliable results even if its components performed no better than today's best first-generation prototypes. With much more processing power than a conventional computer for some problems, quantum computers might be used to break today's best encryption codes, optimize complex systems such as airline schedules, accelerate database searching, develop novel products such as fraud-proof digital signatures, or simulate complex biological systems for use in drug design.
- ◆ **Developed Atom-Based Standards for Measuring Chip Features Under 50 Nanometers (nm).** A team of physicists, engineers, and statisticians at NIST, SEMATECH, and other collaborators developed new test structures to measure reliably device features on computer chips as small as 40 nm wide—less than one-thousandth the width of a human hair. The new test structures provide standard "rulers" for measuring the narrowest linear features that can be controllably etched into a chip. The test structures are replicated on reference materials that will allow better calibration of tools that monitor the manufacturing of microprocessors and similar integrated circuits.

Performance Goal: Promote innovation, facilitate trade, ensure public safety and security, and help create jobs by strengthening the nation's measurements and standards infrastructure (TA/NIST)

The nation's ability to innovate, grow, and create high value jobs relies on a robust scientific and technical infrastructure, including research, measurement tools, standards, data, and models. The NIST Laboratories develop and disseminate measurement techniques, reference data and materials, test methods, standards, and other infrastructural technologies and services required by U.S. industry to compete in the 21st century.

Progress on this goal is evaluated using an appropriate mix of specific output tracking, peer review, and economic impact analyses. Together, these evaluation tools, combined with continual feedback from customers provide a detailed and broad view of performance toward this long-term goal. Additional information on these evaluation methods is available at <http://www.nist.gov/director/planning/strategicplanning.htm>.

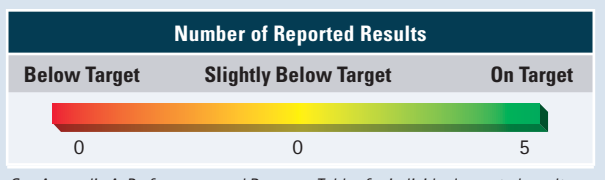


Specific achievements of this performance goal are described below:

- ◆ Technical publications represent one of the major mechanisms NIST uses to transfer the results of its research to support the technical infrastructure and provide measurements and standards—vital components of leading-edge research and innovation—to those in industry, academia, and other government agencies. Each year NIST technical staff author a total of 2,000-2,200 publications with most appearing in prestigious scientific peer-reviewed journals. In FY 2005, NIST staff authored 1,148 publications in peer-reviewed journals. One recent publication highlighted an improved method for depositing nanoporous conducting polymer films on miniaturized device features. The method may be useful as a general technique for reproducibly fabricating microdevices such as sensors for detecting toxic chemicals.

- ◆ Standard Reference Materials (SRM) are the definitive source of measurement traceability in the United States; all measurements using SRMs can be traced to a common and recognized set of basic standards that provides the basis for compatibility of measurements among different laboratories. SRMs certified by the NIST Laboratories are used by customers to achieve measurement quality and conformance to process requirements that address both national and international needs for commerce, trade, public safety, and health. In FY 2005, NIST sold 32,163 SRMs and developed several new ones. One recently issued SRM will help clinical genetic labs improve the accuracy of their diagnostic tests for Fragile X Syndrome, the most common cause of hereditary mental retardation. NIST's SRM 2399, Fragile X Human DNA Triplet Repeat Standard, can be used as a check on test procedures and for quality control when testing for the genetic mutation that affects approximately one in 3,600 males and one in 4,000-6,000 females.

- ◆ Online data represent another method NIST uses to deliver measurement and standards tools, data, and information. NIST provides online access to more than 80 scientific and technical databases covering a broad range of substances and properties from a variety of scientific disciplines. These technical databases are heavily used by industry, academia, other government agencies, and the general public with more than 70,000,000 estimated downloads in FY 2005. The NIST HIV Structural Reference Database (HIVSDB) launched in the summer of 2004 has become one of the Institute's most popular data services. An information resource for the HIV research community, the HIVSDB collects, annotates, archives, and distributes structural data for proteins involved in making HIV, the virus that causes AIDS, as well as molecules that inhibit the virus. The database is useful in developing new AIDS inhibitors by facilitating the online comparison of the existing hundreds of AIDS inhibitors on the basis of their ability to attack specific locations in the active site of the AIDS enzyme (HIV protease).



See Appendix A: Performance and Resource Tables for individual reported results.

NIST researchers have developed an improved experimental X-ray detector that could pave the way to a new generation of wide-range, high-resolution trace chemical analysis instruments. As described in the June 2005 issue of Powder Diffraction, the researchers used improved temperature-sensing and control systems to detect X-rays across a very broad range of energies. The detector's ability to distinguish between X-rays with very similar energies should be especially useful to the semiconductor industry for chemical analysis of microscopic circuit features or contaminants.

Research physicist Terrence Jach prepares to analyze a sample with the NIST X-ray microcalorimeter. Improved temperature sensing and control systems allow the instrument within the gold chamber to the right to detect X-rays characteristic of specific elements over a broad range of energies with higher resolution.





PERFORMANCE SECTION * STRATEGIC GOAL 2

- ◆ Today's global marketplace demands rapidly conducted, highly accurate, and efficiently delivered measurements. NIST measurement services, including calibration services, are critical for ensuring product performance and quality, improving production processes, making marketplace transactions fair and efficient, and leveling the playing field for international trade. NIST calibration services provide the customer with direct traceability to national and international primary standards. NIST offers more than 500 different types of physical calibrations in areas as diverse as radiance temperature, surface finish characterization, and impedance; in FY 2005, NIST calibrated 3,145 items.

Accomplishments and applicable quantitative data used to evaluate progress on this long-term performance goal are reviewed quarterly. Quantitative data are collected and reported by NIST's Technology Services Division.

The research and measurement standards work of the NIST Laboratory Programs is evaluated annually by the National Research Council (NRC). The external and independent evaluation combined with several quantitative evaluation metrics focused on dissemination of NIST's measurements and standards work demonstrate the laboratories' contribution to the nation's measurement and standards infrastructure.

In FY 2005, the NRC Board on Assessment (BOA) conducted a series of laboratory reviews focused on:

- ◆ The technical quality and merit of the laboratory programs relative to the state-of-the-art worldwide.
- ◆ The effectiveness with which the laboratory programs are carried out and the results disseminated to customers.
- ◆ The relevance of the laboratory programs to the needs of customers.
- ◆ The ability of the laboratories' facilities, equipment, and human resources to enable the laboratories to fulfill their mission and meet customers' needs.

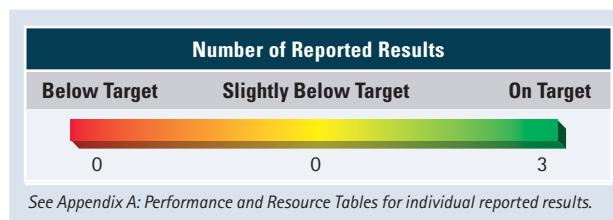
The NRC BOA conducts on-site annual reviews and produces a biennial report that includes findings over the two-year evaluation period. The biennial reporting process allows additional focus on the technical exchange between NIST staff and the reviewers as well as increased interactions among external reviewers. The 2004-2005 assessment report will be available online at <http://www7.nationalacademies.org/nist/> in the fall of 2005.

In addition to the peer-review process, the programmatic goals, strategic direction, and management policies of NIST as a whole, including each of its major programs, are reviewed regularly by the Visiting Committee on Advanced Technology (VCAT). The VCAT is a legislatively mandated panel of external advisors that meets quarterly to review NIST's general policy, organization, budget, and programs. See <http://www.nist.gov/director/vcat/index.htm> for additional information on the VCAT, including its most recent annual report.

Performance Goal: Accelerate private investment in and development of high-risk, broad-impact technologies (TA/NIST)

Technological innovation in U.S. industry is critical to sustaining U.S. economic growth and competitiveness, and this growth depends upon investment in long-term, high-risk research. Through the Advanced Technology Program (ATP), the federal government provides the initial investments necessary to promote the development of risky, early-stage technologies that are critical to technological innovation and widespread economic benefit.

From the beginning, evaluation has been a central part of ATP. The Program uses a variety of methods, including internal assessments, external program, and economic impact studies reviews to assess and evaluate the program. Additional information on ATP's evaluation methods is available at: http://www.atp.nist.gov/eao/eao_main.htm.



Specific achievements of this performance goal are described below:

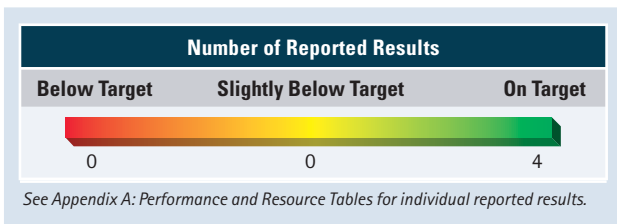
- ◆ Publications and patents represent major channels for the diffusion of technical knowledge that results from ATP investment in the development of new technologies. With more than 1,400 cumulative publications and more than 1,200 cumulative patents (through FY 2004), ATP-funded research continues to generate technical knowledge and disseminate research results that contribute to the nation's technical knowledge base.
- ◆ The number of ATP-funded projects with technologies under commercialization is an indication of the extent to which ATP-funded research has either leveraged or catalyzed new products and services, which in turn improve the prospects for technology-led economic growth. Commercialization is broadly defined as any group of activities undertaken to bring products, services, and processes into commercial applications, including development of commercial prototypes, adoption of processes for in-house production, development of spin-off products and processes, and the sale and licensing of products and services derived from the technology base created by the ATP-funded project. Almost 300 ATP projects have technologies under commercialization (through FY 2004).

These data, along with other programmatic accomplishments, are used to evaluate progress on this long-term performance goal. Data are gathered from the portfolio of ATP project participants through ATP's Business Reporting System (BRS). BRS reports are reviewed by ATP's Economic Assessment Office and the individual project managers overseeing the ATP project.

The programmatic objectives and management of ATP are reviewed regularly by the VCAT and by the ATP Advisory Committee. The ATP Advisory Committee is charged with: (1) providing advice on ATP programs, plans, and policies; (2) reviewing ATP's efforts to assess the economic impact of the program; (3) reporting on the general health of the program and its effectiveness in achieving its legislatively mandated mission; and (4) functioning solely as an advisory body, in accordance with the provisions of the Federal Advisory Committee Act (FACA). Additional information on the ATP Advisory Committee, including recent annual reports, is available at http://www.atp.nist.gov/adv_com/ac_menu.htm.

Performance Goal: Raise the productivity and competitiveness of small manufacturers (TA/NIST)

The most significant challenge facing U.S. manufacturers continues to be coping with accelerating technological change and global competition. The firms that succeed will be those best able to manage the complexity and rapid change affecting all aspects of the manufacturing enterprise. Through the Hollings Manufacturing Extension Partnership (MEP) program's nationwide network of manufacturing centers, which are linked to state, university, community college, and private sources of technology and expertise, the nation's small and medium-sized manufacturers are supplied with high-quality, unbiased information, advice, and business assistance.



See Appendix A: Performance and Resource Tables for individual reported results.

MEP clients receive training, technical, and business assistance through interactions ranging from informational seminars and training classes to in-depth technical assistance in areas such as lean implementation, ISO 9000, quality improvement practices, human resources and organizational development, and industrial marketing.

Specific achievements of this performance goal are described below:

- ◆ MEP's nationwide network of manufacturing assistance centers work at the grassroots level with each center providing their local manufacturers with expertise and services tailored to their most critical needs. In FY 2004, MEP centers provided services to 16,090 clients.
- ◆ Through an annual survey of clients, the Program receives quantifiable impacts of MEP services on its clients' bottom line. MEP demonstrates the impact of its services on three key quantitative business indicators that, as a set, suggest the presence of business changes that are positively associated with productivity, revenue growth, and improved competitiveness: (1) increased sales attributed to MEP assistance; (2) increased capital investment attributed to MEP assistance; and (3) cost savings attributed to MEP assistance. The most recent survey results from services provided in FY 2004 show increased sales of \$2,025 million, increased capital investment of \$1,023 million, and cost savings of \$754 million all attributed to the services received from MEP centers.

MEP's data collection process is designed to obtain actual client impacts and, as a result, client survey data lag by approximately one year. The survey process, coupled with the time line for producing the Performance and Accountability Report (PAR), precludes the reporting of actual FY 2004 data. The data reported in the PAR represent a combination of three-quarters of actual client reported impacts and one-quarter of estimated client impacts. The estimate is based on the final quarter of FY 2003 survey data

New Jersey MEP (NJMEP), a NIST MEP affiliate center, worked with Trek Connect, Inc. of Moorestown, NJ to implement lean manufacturing principles. The operational improvements resulting from the lean program included accelerated throughput, improved on-time delivery, maintenance of product performance levels, and an overall more competitive and profitable market position. "The lean implementation in our operations has improved visibility, throughput, accountability, and lead times. We are pleased with our progress so far, and we are ready to tackle the difficult issues related to design, quoting and maintaining continuous improvement... Management has been able to rely on NJMEP to facilitate our commitment to Lean Enterprise, helping us to improve while still running our business day-to-day." - Harold M. Heft, General Manager

Founded in 1999, Trek Connect, Inc., a small, woman-owned, wire harness and cable assembly manufacturer has 28 employees and annual sales of \$3,500 million.



and has been adjusted to reflect the number of clients anticipated in the final FY 2004 survey quarter. Final FY 2004 data will be available in December 2005.

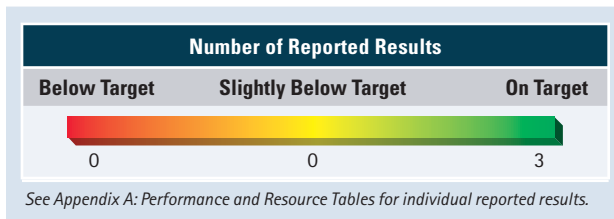
These data, along with other programmatic accomplishments, are used to evaluate progress on this long-term performance goal. MEP's Client Impact Survey is administered by a private firm. Each quarter, data are reviewed by NIST MEP staff and Center staff. Based on defined criteria, impacts are selected by NIST MEP for confirmation and verification by Center staff.

As with other NIST programs, the programmatic objectives and management of MEP are reviewed regularly by the VCAT and MEP's National Advisory Board, which was established by the Secretary of Commerce in October 1996. The Board meets three times a year to: (1) provide advice on MEP programs, plans, and policies; (2) assess the soundness of MEP plans and strategies; (3) assess current performance against MEP program plans; and (4) function solely in an advisory capacity, and in accordance with the provisions of FACA. Additional information on MEP's National Advisory Board, including its most recent annual report, is available at <http://www.mep.nist.gov/about-mep/advisory-board.html#annualreport>.

Performance Goal: Enhance public access to worldwide scientific and technical information through improved acquisition and dissemination activities (TA/NTIS)

Bringing scientific and technical information to U.S. business and industry.

NTIS, a component of TA, seeks to promote innovation and economic growth for U.S. business by: (1) collecting, classifying, coordinating, integrating, recording, and cataloging scientific and technical information from whatever sources, foreign and domestic; (2) disseminating this information to the public; and (3) providing information management services to other federal agencies that help them interact with and better serve the information needs of their own constituents, and to accomplish this without appropriated funds.



The Office of the Inspector General (OIG) contracted with KPMG LLP to audit NTIS's FY 2004 Financial Statements, to release a report (FSD-16698-5-0001) on November 8, 2004 indicating that NTIS established an internal control structure that facilitated the preparation of reliable financial and performance information. OIG issued an unqualified opinion.

STRATEGIES AND FUTURE PLANS

NIST uses a variety of methods, including hosting conferences and workshops, participating on standards committees, and ongoing interactions with trade organizations to interact with and assess the needs of its diverse customers. NIST hosted a number of conferences and workshops in FY 2005 ranging from telecommunications to biometrics to quantum communications. Through these types of engagements, NIST, working with its customers, assesses next-generation infrastructural needs. In addition, NIST is leading a comprehensive assessment of the U.S. measurement system. Through this private-public partnership, priority measurement needs from across industry and the economy will be identified, along with potential solutions and viable solutions providers.



PERFORMANCE SECTION * STRATEGIC GOAL 2

Broader stakeholder input is critical to the development of a strategic plan for the next generation MEP that clearly integrates the impact of globalization and the roles that both innovation and technology deployment play in the competitiveness of the nation's small manufacturers. MEP's planning process is increasingly based on input from a stakeholder list that includes small manufacturers; state representatives; economic development partners; manufacturing related associations; interested universities, community colleges, center managers and professional staff; as well as national stakeholders in the Departments of Commerce, Labor, and Defense, legislators and members of the Administration. This broader input will provide a more complete understanding of manufacturing needs, the manufacturing infrastructure in which the MEP centers operate, and the priorities of the broader community.

In FY 2005, there was no funding appropriated for a new competition for ATP awards. The President's FY 2006 budget proposal includes no funding for ATP due to higher priority needs. However, ATP will continue to assess and respond to the needs of its existing award recipients through surveys, outreach efforts, and workshops throughout the life of ATP-funded projects.

Based on current results, NTIS is developing a new strategic plan in an effort to meet most efficiently the challenge of permanent preservation of and ready access to the taxpayers' investment in R&D through the acquisition, organization, and preservation of the titles added annually to the permanent collection. Initiatives to use technologically advanced global e-commerce channels for dissemination have been a major success, thus providing the U.S. public with increased access to government information. Because NTIS offers the NTIS bibliographic database (from 1990 to the present) via the Internet free of charge, users can now download any item in the NTIS collection that is in electronic format for a low fee. This is one accomplishment supporting this initiative.

Consistent with its statutory mandate to develop new methods for disseminating information and to focus on electronic means, NTIS will continue to look for opportunities to develop electronic subscription products and harness the Internet as a means of providing information dissemination services to other agencies, such as providing a platform to meet e-learning needs.

The U.S. technology sector operates in a dynamic global environment that has changed radically since the end of the Cold War. The emergence and the strength of new economies in countries such as China and India, as well as the dramatic increase in the pace of innovation around the world, have resulted in a transformation of the technological and competitive landscape for the U.S. technology sector. The results are newer, larger global market opportunities, and more and stronger global competitors. Because the United States cannot generally compete in the area of low-cost manufacturing and labor, technological innovation will remain a key differentiator for the United States. OTP will continue to work to identify barriers to and foster the U.S. technological innovation process for rapid development, deployment, and commercialization of new and emerging technologies with broad economic and social potential.

To address these priorities and fulfill its mission, OTP engages and works with industry, Commerce bureaus and federal agencies, and other stakeholders in the innovation community to help maximize the contribution of technological innovation to the growth of the U.S. economy. Through its analytical policy focus, OTP helps frame and explore key issues related to emerging technologies, the innovation infrastructure, technology transfer, general business climate, economic security, and market opportunities that affect our nation's innovative capacity, competitiveness, and economic growth. OTP identifies problems and barriers to technological innovation, promotes new models of technology transfer and research and development collaborations, offers policy recommendations to address challenges posed by technological change, and examines other concerns related to technological innovation. By engaging key stakeholders in dialogue and through rigorous analysis of collected data and information, OTP provides new knowledge and intelligence about the innovative capacity of U.S. firms and workers that inform the actions of the Secretary of Commerce, policymakers, and stakeholders.



Analytical findings are delivered and disseminated through a variety of media and products, including congressional testimony, briefings, reports, and the OTP Web site; advocacy in the federal interagency policy process and appropriate international fora; workshops and conferences; and other channels. Through the dissemination of OTP's analysis, U.S. policymakers, leaders, and decisionmakers are provided with increased knowledge and a deeper understanding of trends and policy implications brought about by rapid advancement of new and emerging technologies and the globalization of technological innovation. OTP's portfolio of policy work adapts and evolves in alignment with the dynamic, fast-paced, and increasingly more technology-driven, knowledge-based global economy.

CHALLENGES FOR THE FUTURE

The role of technological change in generating economic growth, wealth, and jobs has taken center stage in the 21st century global and increasingly knowledge-based economy. Globalization and the integration of the world's national economies have accelerated through advancements in communications and transportation and the liberalization of commercial policy and free trade agreements. Rising competitors including China, India, Russia, and Central and Eastern European countries have large and rapidly growing pools of skilled and educated workers. These and other countries have come to recognize the strong relationship between technology, knowledge, and economic growth, and they are pursuing policies and strategies to exploit this relationship by increasing R&D investments; establishing the necessary infrastructure to support technological innovation and modern business enterprise; training millions of workers in science, engineering, and technical skills; fostering a climate that promotes and rewards talent and creativity; and attracting global investment in technology-related industries. In addition to establishing a science and technology base, many of these nations will develop the management capabilities to exploit new technologies for their own benefit. This growing globalization and increasingly competitive playing field have significant implications for U.S. technological leadership and the economic growth and jobs it generates; the location of R&D and high-tech manufacturing; competition for high-skilled workers; and the climate for attracting global investment.

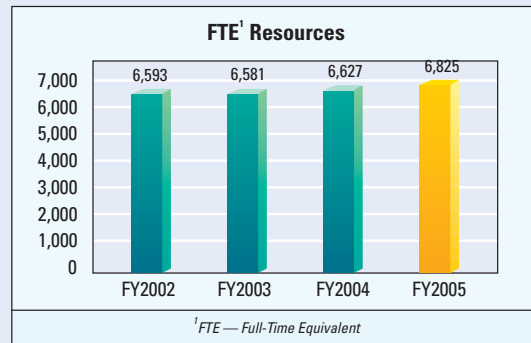
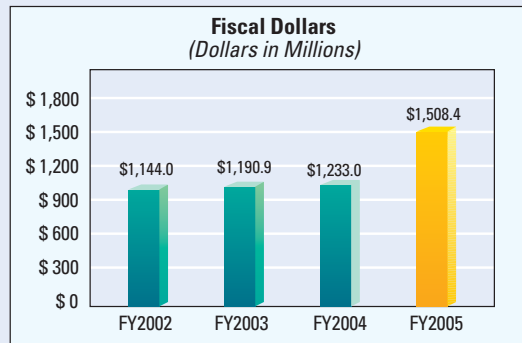
Added to this complexity is the appearance of new and emerging technologies (e.g., biotechnology, radio frequency identification (RFID) technology, nanoscale technologies, advanced computing and telecommunication technologies, alternative energy and power generation technologies, and advanced electronics and control systems) and the convergence of these technologies, which promise to radically alter products and services, manufacturing processes, business models, productivity, and our daily lives. These technologies have implications for a range of government policies and action. Countries that are prepared to quickly capitalize on the advances that flow from these emerging, inter-connected technologies can be expected to enjoy substantial opportunities for growth, formation of new industries, job creation, and increased wealth. The United States must adapt to this new environment and effectively harness the economic potential of new and emerging technologies for the nation's benefit.

Given these two major unfolding forces of change, and technology's fundamental role in economic growth and job creation of knowledge-based economies, federal policies must reflect and respond to this dynamic landscape, and create a supportive environment for entrepreneurship, technological innovation, and technology investment in the United States. OTP can help the Department and other federal agencies to respond to and capitalize on the changes that are taking place in the competitive international landscape by adding value to the national debate and discussion on how best to promote innovation, entrepreneurship, competitiveness, and stewardship of our science, technology, and innovation assets in order to sustain U.S. leadership in the global marketplace and raise the standard of living and quality of life for all Americans.

STRATEGIC OBJECTIVE 2.2

Protect intellectual property and improve the patent and trademark system

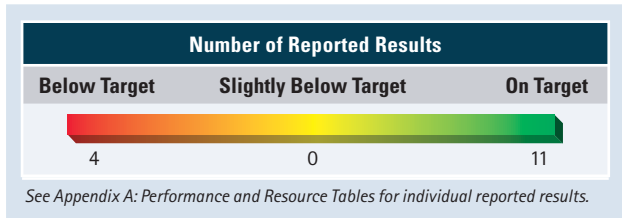
TOTAL RESOURCES



This objective is important to the nation as it serves to ensure that the intellectual property (IP) system contributes to a strong global economy, encourages investment in innovation, and fosters entrepreneurial spirit.

Achievement of this objective will protect individual rights and innovation in a timely, efficient manner. A discussion of each performance goal within this objective will further describe the outcomes of the objective.

The Department promotes the IP system through the protection of inventions or creations via patent, trademark, trade secret, or copyright laws. U.S. innovators and industry have flourished under this multifaceted system of protection as new products are invented and employment opportunities are created for millions of Americans. The strength and vitality of the U.S. economy depends directly on effective mechanisms that protect new ideas and investments in innovation and creativity.



| PERFORMANCE GOAL | STATUS* |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Improve the quality of patent products and services and optimize patent processing time (USPTO) | ● |
| Improve the quality of trademark products and services and optimize trademark processing time (USPTO) | ● |
| Create a more flexible organization through transitioning patent and trademark operations to an e-government environment and advancing intellectual property development worldwide (USPTO) | ● |

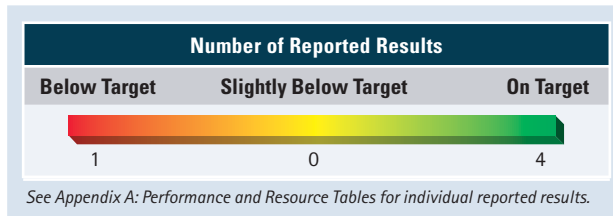
* ● = MET (100%) ● = SIGNIFICANTLY MET (75% - 99%) ● = NOT MET (< 75%)

The primary services provided by the Department within this objective are examination of patent and trademark applications and dissemination of patent and trademark information. Through issuing patents, the Department encourages technological advancement by providing incentives to invent, invest in, and disclose new technology. Through registering trademarks, the Department assists businesses in protecting their investments, promoting quality goods and services, and safeguarding consumers against confusion and deception in the marketplace by providing notice of marks in use. By disseminating both patent and trademark information, the Department promotes a global understanding of IP protection and facilitates developing and sharing new technologies worldwide.

Performance Goal: Improve the quality of patent products and services and optimize patent processing time (USPTO)

A more efficient and streamlined patent process resulting in high quality products and services.

The core process under this goal is the examination of an inventor’s application for a patent by comparing the claimed subject matter of the application to the existing body of technological information to determine whether the claimed invention is new, useful, and non-obvious to someone knowledgeable in that subject matter. A quality review of the examination process includes reviewing a random sample of both in-process and allowed applications for errors.



PATENT QUALITY

Quality is the most important component of *The 21st Century Strategic Plan*. USPTO has in place several quality initiatives called for by the *Strategic Plan*, including an enhanced Quality Assurance Program for end product reviews, in-process reviews, and enhanced "second pair of eyes" reviews. The feedback from these reviews is used to identify and develop training modules and other quality enhancements. Additionally, to ensure that the primary patent examiners maintain the knowledge, skills, and abilities (KSA) necessary to perform a high quality examination, USPTO implemented a re-certification program, with primary examiners re-certified once every three years. A certification program was also implemented for junior examiners to ensure they have the required KSAs prior to promotion to the level where they are given legal and negotiation authority.



New USPTO examiners attend class during the Patent Examiner Initial Training program.

The Office did not meet its FY 2005 patent allowance error rate target of 4.0. The percent of allowed applications with a material defect was 4.6 percent for the fiscal year. An allowance error is defined as at least one claim within the randomly selected allowed application under quality review that would be held invalid in a court of law, if the application were to issue as a patent without the required correction. The allowance error rate is measured by the ratio of the number of applications containing an allowance error to the total number of allowed applications reviewed.

The patent in-process review program is employed to assess examination quality prior to final examiner determination. An in-process compliance rate is measured by the ratio of Office actions that do not include a deficiency that has a significant impact on the ability of the applicant to advance the prosecution on the merits of the application to the total number of Office actions reviewed. FY 2004 was the baseline year, with an in-process compliance rate of 82 percent as of June 30. The Office met its FY 2005 target of 84 percent with a patent in-process compliance rate of 86.2 percent.

PATENT PENDENCY

Under *The 21st Century Strategic Plan*, USPTO has a goal to reduce patent application pendency and substantially cut the size of the work backlog. The two primary measures of patent application processing time are: (1) first action pendency, which measures the average time in months from filing until an examiner’s initial determination is made of the patentability of an invention; and (2) total pendency, which measures the average time in months from filing until the application issues as a patent or the application is abandoned by the applicant. The Office continues to strive to meet its goals through hiring sufficient numbers of new patent examiners, exploring work sharing with other patent offices, competitive sourcing of PCT (Patent Cooperation Treaty) application searches, and the implementation of variable, incentive-driven fees.

The Office met its target of 21.3 months for first action pendency and met its target of 31.0 months for total pendency.

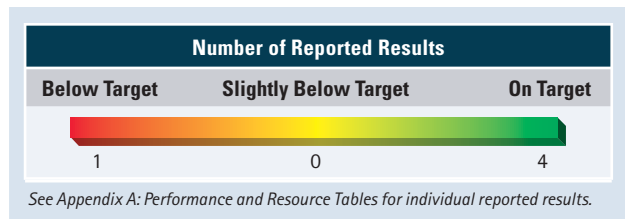
PATENT EFFICIENCY

Patent efficiency measures the degree to which the program can operate within planned costs relative to patent examiner outputs. The Office met its 2005 efficiency target of \$4,122. The measure is calculated by dividing total annual USPTO expenses associated with the examination and processing of patents, including associated overhead and support expenses, by annual production units. For the current and budget years, targets are estimated using the budgetary request in place of actual expenses, and all projected production units. It should be noted that out year calculations are subject to change, depending upon the level of funding actually authorized and spent.

Performance Goal: Improve the quality of trademark products and services and optimize trademark processing time (USPTO)

A more efficient and streamlined trademark process resulting in high quality products and services.

The core process under this goal is the examination of applications for trademark registration. As part of that examination, trademark examining attorneys make determinations of registrability under the provisions of the Trademark Act of 1946, as amended, including searching the electronic databases for any pending or registered marks that are confusingly similar to the mark in a subject application, preparing letters informing applicants of the attorney’s findings, approving applications to be published for opposition, and examining Statements of Use in applications filed under the Intent to Use provisions of the Trademark Act.



TRADEMARK QUALITY

Identification of the criterion for assessing the quality of an office action is a crucial aspect of the USPTO priority for improving the quality of examination. Trademark quality is determined through an evaluation of current, in-process first and final examiner search results and actions to create a more comprehensive, meaningful, and rigorous review of what constitutes quality of examination. This review includes a review and an analysis of over 350 items to determine "excellent", "satisfactory", and "deficient" work with regard to the overall writing and evidence in the Office actions and the decision-making of every aspect of the application examination. The review also includes an analysis of all aspects of the examining attorneys' handling of every substantive and procedural issue. Quality has been measured using the more rigorous criteria for the past two years. The results show that quality of the examiner's first action on an application is improving. Quality as measured for final Office actions, which includes a complete review of the quality of all the actions throughout the course of examination, has not met the target goal.

The first action deficiency target of 8.3 percent was revised to 7.5 percent based on the FY 2004 performance results that exceeded the target originally set for FY 2005. Trademark first action deficiency error rate results for FY 2005 were 4.7 percent, or 2.8 percent below the revised 7.5 percent deficiency target. The final action deficiency error rate was 5.9 percent, or .9 percent above the 5.0 percent target.

The in-process review evaluation has been structured to provide feedback on performance and is the basis for developing training materials to ensure that examiners are well qualified to perform their jobs at the highest level. As part of this effort, the Office released three new e-learning training modules covering issues related to §2(d) of the Trademark Act. Examiners were required to take the self-paced tutorial as part of USPTO's commitment to improve the quality of examination.

TRADEMARK PENDENCY

Trademark first action pendency target is 6.4 months from date of filing to the date that the examiner's first office action is processed. First action pendency is based on the average time from filing to first action as reported for the month of September. First action pendency results for FY 2004 were 6.6 months. The Office met its FY 2005 target by achieving a first action pendency of 6.3 months.

Trademark disposal pendency target for this fiscal year is 17.5 months excluding suspended and inter partes cases, and 20.3 months including all cases, based on the average number of days from date of filing to notice of abandonment, notice of allowance, or registration for applications based on use. Disposal pendency results for FY 2005 were 17.2 months and 19.6 months, respectively. The Office met its FY 2005 target.

TRADEMARK EFFICIENCY

The trademark efficiency measure is calculated by dividing total USPTO expenses associated with the examination and processing of trademarks (including related overhead and support expenses) by office disposals or outputs. The measure is a relative rather than absolute indicator of the efficiency of trademark processes. It provides a means for assessing actual expenses against plan and changes in costs relative to performance results over time to determine if improvements in operating efficiencies are achieved. The FY 2005 target of \$701 is based on planned budget obligations whereas the final results are based on actual expenses, which include non-budget costs.²

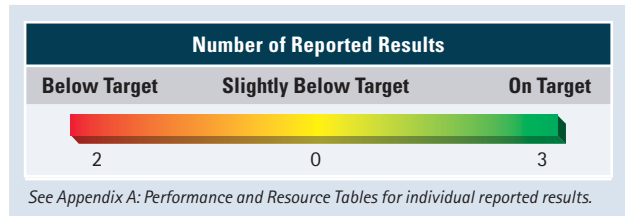
² Note that after the FY 2005 target was set there was a change in how the overhead costs were allocated for the Office. This change in methodology resulted in a greater amount of overhead attributed to the trademark operations.

The Office met its trademark efficiency target. Total costs averaged \$170,900,919 based on office disposals of 252,275 for a unit cost of \$677.

Performance Goal: Create a more flexible organization through transitioning patent and trademark operations to an e-government environment and advancing intellectual property development worldwide (USPTO)

Making patent and trademark information readily available.

Under *The 21st Century Strategic Plan*, USPTO continues to work with its IP partners to improve the efficiency of its processing systems. The number of applications and communications received and processed electronically has continued to increase and has resulted in more coordinated and streamlined work processes. The transition to greater reliance on electronic systems will position USPTO for the globalization that characterizes the 21st century economy and will increase the efficiency of operations.



USPTO continues to make progress in the transition of its patent and trademark operations; applicants are able to electronically file for patents and trademark registration and can review the current status of those applications as needed. USPTO has replaced paper files with electronic copies of patent and trademark applications. Examiners and the public may now access the same version of the file contents electronically.

Anyone with Internet access anywhere in the world can use USPTO's Web site (www.uspto.gov) to track the status of a public patent application as it moves from pre-grant publication to final disposition, allowing review of the documents in the official application file, including all decisions made by patent examiners. This system, known as Public PAIR (Patent Application and Information Retrieval), offers the public an advanced electronic portal for PDF viewing, downloading, and printing an array of information and documents for patent applications not covered by confidentiality laws. Public PAIR also offers a quick-click feature for ordering certified copies of patent applications and application files.

The Trademark Document Retrieval (TDR) System allows for online public access to the official trademark application file, including all decisions made by trademark examining attorneys and their reasons for making them. This system allows access to the full file contents of all pending and some registered files in an electronic PDF format, including downloading and printing of an array of information and documents. Public access improves USPTO's ability to provide timely and useful information to business owners as they develop their marks and prepare to file trademark applications.

Significant progress has been made in transitioning both patent and trademark operations to an e-government environment. USPTO met its target for managing 99 percent of trademark and 90 percent of patent applications electronically by having all applications available in an electronic format. As USPTO continues to make progress in this transition, Americans may more easily gain access to information as well as apply for patents and trademark registration and obtain information about the status of their applications online. All federally registered and pending trademarks are available to the public on USPTO's Web site where status information is also available. The trademark data includes nearly two million pending and registered trademarks dating back to 1885 and represents more than 100 years of marketing creativity.



USPTO has established three fee levels for filing an application for registration of a trademark consistent with the objectives of *The 21st Century Strategic Plan* to create financial and market-based incentives and encourage greater participation in the trademark system. Trademark owners now have alternatives that allow them to select the option that best meets their needs with higher fees for filing on paper and lower fees for filing electronically. The lowest fee requires electronic filing of a complete application that permits USPTO to reduce time required to determine registrability.

USPTO revised its target goal for electronic filing to 70 percent of trademark applications filed based on 2004 results and still exceeded the revised target with 88 percent of applications received electronically. USPTO has continued to enhance its trademark electronic filing system by expanding the number and type of transactions that can be completed online and by offering reduced fees to encourage electronic communications. Twenty-six electronic forms are now available through the award winning Trademark Electronic Application System (TEAS). Just as electronic filing has become the preferred way to initially transact business with USPTO, options for reduced fees, system enhancements, and the availability of forms that permit more transactions have encouraged greater use and acceptance among trademark customers to the point where electronic filing is now the preferred method for communicating on trademark matters.

In FY 2005, the Office received 2.2 percent of patent applications electronically and managed 96.7 percent electronically. During FY 2005, the Office continued its efforts to increase the number of electronically filed applications and held several e-filing customer outreach forums to hear applicants' concerns and to promote the benefits of filing applications electronically. Acting on their suggestions, USPTO will deploy a user-friendly PDF-format system early in FY 2006.

In the past year, USPTO increased the number of notices by 10 that are sent electronically through "Tpostal", the Agency's electronic bulk mailing system for trademark related notices. Thirteen types of notices are sent electronically through the U.S. Postal Service's Web-based NetPost Mailing Online system to print, stamp, and mail post card notices to trademark filers within 24 hours of receipt by the U.S. Postal Service. Using postcards rather than letters not only saves time but also reduces labor, materials, and postage costs, resulting in considerable savings.

STRATEGIES AND FUTURE PLANS

USPTO will continue to eliminate paper documents from the examining process. Delivery of Web-based text and image search systems will encourage more applicants to do business electronically. Significant progress has been made in improving e-government operations, as the Office now exclusively uses trademark data submitted or captured electronically to support examination, publish documents, and print registrations.

Completing implementation of *The 21st Century Strategic Plan* will continue at USPTO. In order to more effectively serve an increasingly larger, global client base, USPTO relies on electronic communications to improve the availability of patent and trademark information. E-government initiatives allow customers to conduct an electronic search to determine the status of pending and registered trademarks and view public patent applications; conduct a preliminary search prior to filing an application; access general information, examination manuals, treaties, laws and regulations; obtain weekly information on marks published, registered, and renewed, and patents issued and patent applications published; and file patent and trademark applications. Internet access increases the opportunity for filing for patent protection and for federal registration.

While *The 21st Century Strategic Plan's* long-term patent pendency goal remains 18 months, this goal will not be achieved in the near future because of the higher priority placed on quality and patent e-government initiatives. However, USPTO plans to



PERFORMANCE SECTION * STRATEGIC GOAL 2

produce, on average, a first office action for first-filed U.S. non-provisional applications at the time of 18-month publication with a patent search report for other patent applications that will be issued in the same time frame.

USPTO has implemented legislation to change its current fee schedule, and will provide the means to streamline the patent system. The Agency plans to control patent pendency and reduce the time to first office action by hiring additional patent examiners to address the growing backlog of pending applications, exploring work sharing with other patent offices, and competitive sourcing of PCT application searches.

USPTO will continue efforts to enhance quality in FY 2006 by certifying patent examiners before the delegation of legal competency, recertification of primary examiners once every three years, and reviewing of work product throughout prosecution to ensure compliance with examination practice and procedures standards. Hiring people who make the best patent examiners, certifying their knowledge and competencies throughout their careers, and focusing on quality throughout the patent examination process will ensure continued quality. By bolstering confidence in the quality of U.S. patents, USPTO will enhance the reliability in the quality of products and services resulting in improved efficiencies and better services for applicants. Additionally, an online pre-employment screening tool will identify potential patent examiner candidates who possess the competencies that are best suited for effective patent examination. These quality initiatives will improve patent and trademark quality by providing review of work product, feedback to examiners on areas for improvement, targeted training, and safeguards to ensure competencies.

CHALLENGES FOR THE FUTURE

USPTO must address the continuing challenges of rising workloads and the shift of applications from traditional arts to more complex technologies.

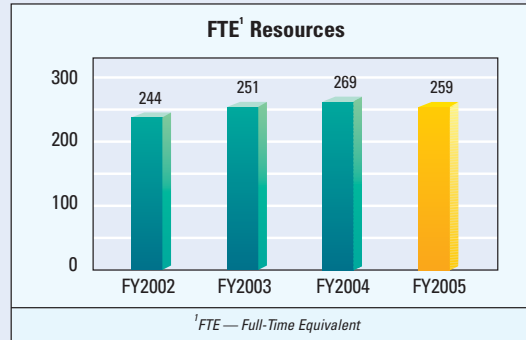
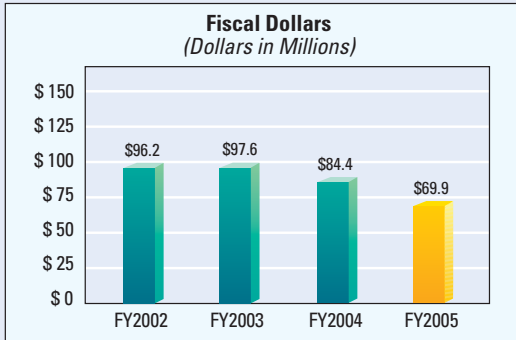
The demand for higher quality products and services has grown as technology has become increasingly complex. Demands for products and services have created substantial workload challenges in the processing of patents at USPTO. Congress, the owners of IP, the patent bar, and the public-at-large have all told the Department that it must address these challenges aggressively and promptly.

Implementation of USPTO's *21st Century Strategic Plan* initiatives will address these challenges and transform USPTO into a quality-driven, highly-productive, and cost-efficient organization that promotes expansion of business opportunities, stimulates R&D, and expands U.S. businesses globally.

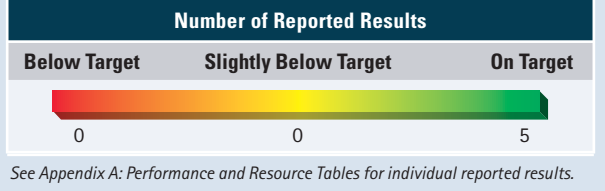
STRATEGIC OBJECTIVE 2.3

Advance the development of global e-commerce and enhanced telecommunications and information services

TOTAL RESOURCES



This objective is important not only to the nation, but to the international community as it has a role in radio frequency (RF) spectrum management and communications on a national level, to the President as an advisor on communications policy matters, on Internet domain names, and for cellular phones and dial-up and high-speed Internet services.



Achievement of this objective will continue to further the technological advances for cellular, Internet services, domain name issues, and other advances in technology. A discussion of each performance goal supporting this objective will further describe the outcomes of this objective.

| PERFORMANCE GOAL | STATUS* |
|-------------------------------------------------------------------------------------------------|---------|
| Ensure that the allocation of radio spectrum provides the greatest benefit to all people (NTIA) | ● |
| Promote the availability, and support new sources, of advanced telecommunications (NTIA) | ● |
| * ● = MET (100%) ● = SIGNIFICANTLY MET (75% - 99%) ● = NOT MET (< 75%) | |

The Department through NTIA:

- ◆ Serves as the principal adviser to the President on domestic and international communications and information policy-making.
- ◆ Promotes access to telecommunications services for all Americans and competition in domestic and international markets.
- ◆ Manages all federal use of the electromagnetic spectrum and generally promotes efficient use of spectrum.
- ◆ Conducts telecommunications technology research, including standards-setting in partnership with business and other federal agencies.
- ◆ Awards grants through the Public Telecommunications Facilities Program (PTFP).

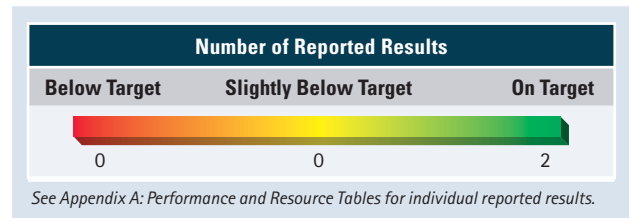
The Agency's expertise encompasses every aspect of telecommunications, including domestic policy, international policy, spectrum management, and technical telecommunications research and engineering.

- ◆ In a "Memorandum for the Heads of Executive Departments and Agencies" dated November 30, 2004, the President directed that an Implementation Plan be developed in FY 2005 for the recommendations contained in a two-part series of reports released by the Secretary of Commerce in June 2004, under the title *Spectrum Policy for the 21st Century—The President's Spectrum Policy Initiative Reports*. The purpose of the Initiative is to promote the development and implementation of a U.S. spectrum policy that will foster economic growth; ensure U.S. national and homeland security; maintain U.S. global leadership in communications technology development and services; and satisfy other vital U.S. needs in areas such as public safety, scientific research, federal transportation infrastructure, and law enforcement.
- ◆ Among its broadband-related activities, NTIA provided technical guidance to the Federal Communications Commission (FCC) for the responsible deployment of broadband over power line (BPL) systems, contributing significantly toward fulfillment of the President's vision for universal affordable broadband Internet access for all Americans by 2007.
- ◆ NTIA also is leading Commerce Department activities in the areas of next-generation Internet Protocols, ultrawideband (UWB) technology, wireless broadband applications, wireless sensor technologies, and child-friendly Internet content.

Performance Goal: Ensure that the allocation of radio spectrum provides the greatest benefit to all people (NTIA)

Advancing broadband and third generation (3G) wireless services.

NTIA examined an array of spectrum management policy issues in FY 2005 dealing with innovative approaches to spectrum management and the effectiveness of current processes. The availability of the RF spectrum is key to the development and implementation of innovative telecommunications technologies.





NTIA prepared and coordinated with federal agencies in the OMB clearance process a Spectrum Reform Initiative implementation plan with 54 milestones to be completed over the next five years. This initiative will fundamentally change the business of spectrum management over the next five years. The purpose of the initiative is to promote the development and implementation of a U.S. spectrum policy that will foster economic growth; ensure our national and homeland security; maintain U.S. global leadership in communications technology development and services; and satisfy other vital U.S. needs in areas such as public safety, scientific research, federal transportation infrastructure, and law enforcement. One result will be the first National Strategic Spectrum Plan. NTIA also took steps to establish the Department of Commerce Spectrum Management Advisory Committee, consistent with the Federal Advisory Committee Act and the NTIA Organization Act. This Committee will be comprised of a broad range of stakeholders including representatives from state, regional and local sectors, industry, academia, and consumer groups.

NTIA and the FCC launched online registration for high-speed wireless links sharing spectrum in the 70-80-90 GHz bands. These fiber-speed wireless communications links may now be coordinated and approved for non-federal use in a matter of minutes. These extremely large "millimeter wave" bands were once used exclusively by the federal government and radio astronomers. Commercial users can now establish high-speed, point-to-point data links through a Web-based registration process first activated this year. Federal agencies will use the same process to apply for and obtain frequency assignments in the 71-76 GHz, 81-86 GHz, 92-94 GHz, and 94.1-95 GHz bands. In terms of bandwidth, the bands span nearly 13 GHz, which is at least five times larger than the aggregate amount of spectrum used by AM and FM radio, television broadcasters, and cellular telephone carriers combined.

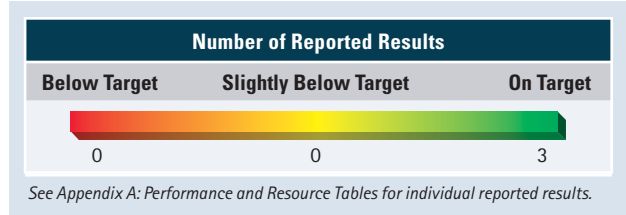
The achievements of this performance goal are described below:

- ◆ NTIA has improved the timeliness of processing frequency assignment requests from a target of 12 business days to less than 10 days. This has been accomplished through business process reengineering and IT improvements. These frequency assignments satisfy the near-term and future spectrum requirements of the 63 federal agencies to operate radio communications that provide the public with national and homeland security, law enforcement, transportation control, natural resource management, and other public safety services during peacetime and emergencies. NTIA's long-term goal is to improve spectrum management processes throughout the federal government so that time for spectrum assignments can be reduced from more than 15 days to three days or fewer by 2008, and ultimately to near instantaneously, supporting long-term goals for efficiency and effectiveness of spectrum use. NTIA's research efforts directly support this goal. The Spectrum Initiative for the 21st Century Implementation Plan, developed in coordination with other federal agencies, provides targets for specific NTIA spectrum management and spectrum policy activities, which serve to advance both of the Agency goals. NTIA adopted a new measure of the percent of milestones completed annually to measure progress in achieving these goals.
- ◆ NTIA's Institute for Telecommunication Sciences (ITS) completed a Land Mobile Radio (LMR) Channel Occupancy report, assessing this frequency band in the Washington, D.C. area. The report provides specific traffic loading information needed to help design future alternative systems for the Washington, D.C. area, and provides information about the current state of crowding in the federal LMR bands.

Performance Goal: Promote the availability, and support new sources, of advanced telecommunications (NTIA)

Performing research to improve both the performance of telecommunications networks and the availability of digital content on the Internet.

NTIA participated on behalf of the Administration in FCC and congressional proceedings on telecommunications policies, including the development of appropriate regulatory treatment for broadband services deployment. A number of Internet related policy issues required NTIA action, including ICANN (Internet Corporation for Assigned Names and Numbers) reform and continuing Internet privatization, domain name management both domestically and internationally, next generation Internet Protocols, and the combination of Internet and telecommunications addressing (ENUM). NTIA pursued policies promoting international trade in telecommunications products and services, promoting consistent international approaches to telecommunications policies, and improving relations with Western Hemisphere neighbors. All of these activities required substantial coordination among NTIA's program offices, as well as interagency coordination to develop the Administration's positions.



The achievements of this performance goal are described below:

- ◆ The President's National Strategy to Secure Cyberspace directed the Secretary of Commerce to form a task force to examine the issues implicated by the deployment of Internet Protocol version 6 (IPv6) in the United States. As co-chairs of that task force, NIST and NTIA have conducted an inquiry into a variety of IPv6-related issues including the benefits and possible uses of IPv6; current domestic and international conditions regarding the deployment of IPv6; economic, technical, and other barriers to deployment of IPv6; and the appropriate role for the U.S. government in the deployment of IPv6. NIST and NTIA have prepared and coordinated with federal agencies in the OMB clearance process a report of the findings of this inquiry.
- ◆ NTIA awarded \$21.4 million in funding from the Public Telecommunications Facilities Program (PTFP) to assist public radio, public television, and nonbroadcast (distance learning) projects across the country. \$11.7 million will go to 33 grantees to assist in the digital conversion of public television facilities; \$7.4 million will fund 73 radio grants; \$383,000 is for five television equipment replacement grants; \$1.5 million is for 11 distance learning grants; and one grant was made to the University of Hawaii for \$499,415 for the PEACESAT (Pan Pacific Educational and Cultural Experiments by Satellite) project. The total amount awarded by PTFP in FY 2005 is \$21.4 million for 123 grants. NTIA also awarded an emergency grant to Louisiana Educational Television Authority to fund equipment damaged by Hurricane Katrina. The award will replace a television transmitter at WLPB-TV in Baton Rouge, which is the flagship station of the statewide network. The WLPB-TV transmitter is operating at 20% power due to hurricane damage. With this emergency grant, the transmitter will be replaced to restore full power and enable WLPB-TV to provide educational and public broadcasting services to southeast Louisiana including the city of New Orleans.
- ◆ NTIA filed comments with the FCC examining issues related to the development and deployment of cognitive radio (CR) technology. NTIA believes that CR technology has the potential to provide more innovative, flexible, and comprehensive use of the radio frequency spectrum, while at the same time minimizing the risk of interference to other spectrum users. CRs can be developed that have the technical capability to adapt their use of the spectrum in response to information external to the radio. As a result of this technical and operational flexibility, CR technologies may also make it possible to use spectrum that



may be available in a particular geographic location or during a particular period of time and would otherwise go unused. NTIA has also prepared a series of technical reports examining the interference potential of ultra wideband signals.

- ◆ NTIA's ITS published technical reports on Bandwidth Dependence of Emission Spectra of Selected Pulsed-CW Radars, Comparison of Radar Spectra on Varying Azimuths Relative to the Base of the Antenna Rotary Joint, Interference Potential of Ultrawideband Signals, Radiation Pattern Analysis of a Four-Element Linear Array, Analysis of the Markov character of a general Rayleigh fading channel, and Measurement Procedures for the Radar Spectrum Engineering Criteria (RSEC). ITS also entered into five Cooperative Research and Development Agreements (CRADAs). ITS has participated for a number of years in CRADAs with private sector organizations to design, develop, test, and evaluate advanced telecommunication concepts.

The data used to evaluate the effectiveness of performance goal achievements are reviewed quarterly and the Department attests to the accuracy and reliability of the data. Data on the timeliness of processing frequency assignment requests is maintained by the Office of Spectrum Management. All other data is published on the NTIA Web site.

NTIA will be restructuring its performance measures for FY 2006 and beyond as a result of an exercise with OMB and the Program Assessment and Rating Tool (PART).

STRATEGIES AND FUTURE PLANS

The bulk of NTIA's resources will be directed toward achieving the President's goal of spectrum management reform. NTIA will facilitate a modernized and improved spectrum management system and facilitate economic incentives for more efficient and beneficial use of spectrum. NTIA's other spectrum management activities include (1) identifying and supporting new wireless technologies that promise innovative applications for customers of the federal and private sectors; (2) providing the 63 federal agencies with the spectrum needed to support their missions for national defense, law enforcement and security, air traffic control, national resource management, and other public safety services; (3) developing plans and policies to use the spectrum effectively; (4) satisfying the United States' future spectrum needs globally through participation with the 190 other countries of the International Telecommunication Union in establishing binding treaty agreements through world radio-communication conferences; and (5) improving, through telecommunications research and engineering, the understanding of radio-wave transmission thereby improving spectrum utilization and the performance of radio-communications systems.

NTIA will also work with the Department of Homeland Security (DHS) on the development of standards for the interoperability of public safety systems and on the implementation of Spectrum Relocation Fund legislation. NTIA will work with the Department of Transportation (DOT) on implementation of the Enhanced 911 Act. NTIA will continue work with the ICANN on the management of the Internet domain names system. NTIA anticipates that it will participate on behalf of the Administration in a congressional examination of the Telecommunications Act focusing on telephony subsidy reform and the classification of advanced broadband services. NTIA will also participate on behalf of the Administration in Digital TV transition policy-making and implementation of IPv6.

CHALLENGES FOR THE FUTURE

In today's era of modern communications, RF spectrum is critical. Current spectrum management policies are under increasing strain as the demand for existing spectrum-based services grows and new spectrum-related technologies and applications emerge. Working with all affected parties in the federal government and the private sector, NTIA and the Department of Commerce must find



PERFORMANCE SECTION * STRATEGIC GOAL 2

ways to implement the recommendations developed through the President's Spectrum Policy Initiative to foster economic growth; ensure U.S. national and homeland security; maintain U.S. global leadership in communications technology development and services; and satisfy other vital U.S. needs in areas such as public safety, scientific research, federal transportation infrastructure, and law enforcement. Also, NTIA and the FCC must coordinate the development of a National Strategic Spectrum plan.

NTIA and the Department of Commerce must also respond to the President's call to clear the regulatory hurdles that stand in the way of broadband deployment and create the regulatory certainty necessary to meet the President's goal of universal and affordable broadband access by 2007. Some of the most promising new broadband technologies are wireless. By expanding the amount of spectrum available for commercial uses, the Department will increase high speed Internet access. In an era of rapidly changing new technologies like mobile wireless, high-speed fiber optics, and expanded broadband deployment, government policies should favor customer choice. Regulatory stability in the telecommunications sector will promote both competition and investment. Developing these policy frameworks to support these goals is the challenge facing NTIA and the Department.