

THE WHITE HOUSE

FACT SHEET

THE PRESIDENT'S INDUSTRIAL INNOVATION INITIATIVESBACKGROUND

The President initiated a "Domestic Policy Review" in April 1978 to identify appropriate government actions in connection with innovation. The President asked the Secretary of Commerce to lead the Review. The charge given the Commerce Department was: "What actions should the Federal government take to encourage industrial innovation?" During the course of the Review members of the Administration consulted with hundreds of groups and individuals from industry, labor, academia, and public interest organizations. Suggestions embodied in task force reports were rendered by 150 of these people. Their recommendations have been reviewed and analyzed by the President. In essence, recommendations ultimately selected by the President are designed either to develop a missing resource or influence decisionmakers in the direction of innovation.

Other industrial countries, recognizing the importance of innovation, are extending their competitive advantage through industrial policies, programs, and institutional structures aimed at selected technologies. To respond to this challenge to our economy and the competitive position of U.S. industry, the review developed policy options intended to foster the Nation's competitive capability and entrepreneurial spirit for the decades ahead.

The initiatives announced today are considered by the President as first steps in meeting the Nation's commitment to innovation and the continuing challenge to maintain the technological strength of the American economy.

The President's actions provide a signal to the private sector that innovation is valued and that it is Federal policy to preserve and promote it in the years ahead. The Administration hopes this will improve the rate of innovation and will establish, over time, a climate in which it will flourish.

There are nine areas where the President has made specific decisions regarding innovation:

- Enhancing the Transfer of Technical Information
- Increasing Technical Information
- Improving the Patent System
- Clarifying Anti-trust Policy
- Fostering the Development of Smaller Innovative Firms
- Improving Federal Procurement
- Improving Our Regulatory System
- Facilitating Labor/Management Adjustment to Innovation
- Maintaining a Supportive Attitude toward Innovation

ENHANCING THE TRANSFER OF INFORMATION

Scientific and technical information is created largely by universities, government laboratories, industrial laboratories and by similar activities abroad. It becomes the knowledge needed in industrial innovation when it is relevant to industry's problems or opportunities and when it is effectively transferred to the industry user. New actions deal with improving the transfer of existing, potentially relevant information; and improving the rate at which we create such information. To facilitate the transfer of existing information, the President is taking action in two areas.

1. The NTIS Center for Utilizing Federal Technology

The Federal government annually undertakes approximately \$10 billion of R&D at Federal laboratories and Federally-funded R&D Centers. The National Technical Information Service (NTIS) provides a channel of communication with industry concerning these research results. It has a broad understanding of industry needs, and Federal laboratory activity. It is in position to help inform industries of technological opportunities of which they might otherwise be uninformed.

- o The President has decided to enhance the NTIS program by creation of a Center in NTIS with the mission of improving the flow of knowledge from Federal laboratories and R&D Centers to industries outside the mission agencies' purview. The FY 1981 cost of the program will be \$1.2 million and subsequent year costs will not exceed \$2 million per year.

2. Foreign Technology Utilization

Foreign technological and scientific advances are an untapped source of technological information for American innovation. An inadequate ability exists within the Federal government and within industries to gather, analyze, organize, and disseminate information regarding foreign research and development activities that bear on the competitiveness of U.S. industry. Other countries gather such information on the U.S.

- o The President has decided to have the NTIS include extensive foreign technical literature collection and translation in its present activities. This move will make relevant foreign literature available to industry. The first year program cost will be \$1.8 million.
- o The President intends to have the Departments of State and Commerce interview volunteer returning U.S. overseas visitors about observed foreign technological developments, collect reports from our science counselors, and collect photographs, and other unpublished information. This information will be merged with the NTIS data base on foreign technical literature to make it widely and easily available to industry. The 1981 cost of this program will be \$2.4 million.

INCREASING TECHNICAL KNOWLEDGE

The Federal government supports a broad range of R&D activities from basic through applied research, development and demonstration in areas of interest to industry. Most of this work is to meet some specific social or national need, as in the case of future development or defense, or to provide a foundation for future advance, as in the case of basic research. Unlike many foreign countries the U.S. does not make major direct governmental investments in the development of technologies. The President will take actions in three areas aimed at enhancing the technical knowledge base in the United States.

1. Generic Technology Centers

The President believes there is a Federal role in the development of generic technologies -- that is, technologies that underlie industrial sectors. Examples include welding and joining, robotics (automated assembly), corrosion prevention and control, non-destructive testing and performance monitoring and tribology (science of lubricants). Because the benefit from advances in generic technology to any one firm (or even one industrial sector) may be small, there is less investment in the development of generic technologies than would be justified by the benefits that flow from these activities.

- o The President has decided to establish non-profit centers -- at universities or other private sector sites -- to develop and transfer generic technologies. Each of the centers will be targeted on a technology that is involved in the processes of several industrial sectors, and has the potential for significant technological upgrading. It would not supplant efforts in the private sector that are designed for specific product development.
- Each center will be jointly financed by industry and government, with the government's share dropping to 20 percent or less of the center's cost in the fifth year.
- Four centers will be established in FY 81 at a cost of \$6-8 million. Three will be sponsored by the Department of Commerce and one by the National Science Foundation.
- In future years, the size of the program will depend on the proposals received, and the experience gained from this initial effort.

2. Regulatory Technology Development

One major cause of the modification of industrial processes in recent years has been the obligation to assure compliance with environmental, health or safety regulation. Innovation is important in making these changes so that the new processes meet regulatory objectives at the least cost. Federal investment in the development of compliance technology already is substantial. There are very large Federal expenditures on technologies for the clean burning of coal or to improve the safety of mines. But there are instances in which the affected sector is unable to perform the work or to assure speedier compliance than the market can provide.

- o The President will ask the Office of Management and Budget, in the course of its crosscut of regulatory activities in developing the FY 81 budget, to examine closely the nature and extent of expenditures on compliance technology and to bolster the Federal effort.

3. Improved Industry-University Cooperation in R&D

The scientific and technological strength of American universities has not been harnessed effectively in promoting industrial technological advance. In order to achieve this end, in FY 1978 the NSF established a program for the support of high quality R&D projects that are proposed jointly by industry-university research teams.

- o The President has decided to provide \$20 million of new funds at NSF in FY 1981 for this purpose with subsequent year support at a similar level.
- o In addition, the President plans to extend the NSF program to other agencies. NSF will work with DOD, DOE, EPA, and NASA in FY 1980 and with other agencies in subsequent years to initiate such university-industry cooperative R&D programs and to establish quality-control procedures as effective as the NSF peer review system. Each agency will formulate plans for building its support for this program

with the objective of reaching an aggregate of \$150 million.

STRENGTHENING THE PATENT SYSTEM

Patents serve several important functions in the innovation process. First, they provide an inventor with an incentive -- a monopoly limited in time. Second, the exclusive rights provided by a patent can stimulate a firm to make the often risky investment that is required to bring an invention to market. Finally, a patent provides an important method for disclosure of information about inventions and their uses to the public.

1. Uniform Government Patent Policy

The Policy Review identified strong arguments that the public should have an unrestricted right to use patents arising from Federal sponsorship. These patents were derived from public funds and all the public have an equitable claim to the fruits of their tax dollars. Moreover, exclusive rights establish a monopoly -- albeit one limited in time -- and this is an outcome not favored in our economy.

Several competing considerations, however, urge that exclusive rights to such patents should be available. First, government ownership with the offer of unrestricted public use has resulted in almost no commercial application of Federal inventions. Without exclusive rights, investors are unwilling to take the risk of developing a Federal invention and creating a market for it. Thus, ironically, free public right to use patents results, in practical terms, in a denial of the opportunity to use the invention. Second, many contractors, particularly those with strong background and experience with patents, are unwilling to undertake work leading to freely available patents because this would compromise their proprietary position. Thus, some of the most capable performers will not undertake the government work for which they are best suited.

As a result of the strength of these considerations, most agencies have the authority in some circumstances to provide exclusive rights. But because of the difficulty of balancing the competing considerations, this issue has been unsettled for over 30 years and the various agencies operate under different and contradictory statutory guidance. The uncertainty and lack of uniformity in policy has itself had a negative effect on the commercialization of technologies developed with Federal support. As a result, there is an active interest in the Congress and among the agencies to establish a clear and consistent policy.

The President considered a range of options, from always vesting title in the contractor, to maintaining the status quo. In arriving at his decision, the President considered the following factors:

- Uniformity. The agencies are currently governed either by an array of different statutes or, in the absence of statute, by Presidential guidance. Indeed, some agencies have different statutory guidance on patents governing different programs. In light of this, there is substantial confusion among contractors who perform R&D for several agencies or programs.
- Impact on Innovation. Exclusive rights to a patent may be necessary to ensure that a firm will make the often risky investment that is required to bring an invention into production and to develop a market for it. Exclusive rights provide protection from other firms that might skim the profit from the market by copying the invention after the risk and cost of introduction are reduced by the first firm's efforts.
- Administrative Burden. Any policy that requires an agency to make decisions imposes some administrative costs.
- Uncertainty. A clear and easy-to-apply rule is preferable to an ambiguous rule for the guidance it offers to both industry and government officials.
- Contractor Participation in Government Programs. Firms with strong proprietary positions are unwilling to accept government contracts that would result in freely available patents.
- Competition. Exclusive rights foreclose competition in the marketing of the invention covered by the patent and serve, in some cases, to enhance the recipient's market power.

- o The President has decided to seek legislation that would establish a uniform government policy with exclusive licenses in the field of use. Title to the patent will be retained by the Government, but the contractor will obtain exclusive licenses in fields of use that he chooses to specify and in which he agrees to commercialize the invention. There will be an exception where the agency determines that such a license would be inconsistent with either the agency mission or the public interest. In most cases, the allocation would be after the invention has been identified, rather than at the time of contracting. The Government would license in all fields of use other than those claimed by the contractor.

The Government would retain march-in rights that can be exercised in the event the licensee does not develop the patent.

- o The President also supports the retention of patent ownership by small businesses and universities, the prime thrust of legislation now in the Congress, in recognition of their special place in our society.

2. Other Reforms

The achievement of the objectives of the patent system depends in large part on the strength of protection a patent provides. Today a U.S. patent has less than a 50 percent chance of surviving a court challenge. Uncertainty as to the validity and continued reliability of a U.S. patent creates the threat of lengthy and expensive litigation with an uncertain outcome.

- o To improve the presumptive validity of an issued patent, and to reduce the cost and frequency of defending it in court, the President is proposing several significant steps. First, the quality of issued patents will be significantly upgraded by major improvement of the Patent and Trademark Office's filing and classification system. Second, he is urging the Congress again to establish a single court to deal with patent appeals. This court would establish nationwide uniformity in patent law, make litigation results more predictable, and eliminate the expensive and time-consuming forum shopping that characterizes patent litigation. Finally, to minimize the cost and uncertainty of litigation patent validity in the courts, the President will submit legislation to provide for voluntary reexamination of issued patents by the Patent and Trademark Office at the request of any person or the court.
- o One of the world's greatest stores of technical information is in the Patent and Trademark Office files, which include more than four million U.S. Patents. However, the current state of access to the information in these files renders their technical content inaccessible to anyone but patent examiners. The President is asking the Patent and Trademark Office to undertake efforts to provide greater ease of public access and use to these files. These reforms will be undertaken without an increase of public expenditures by adjusting the fee schedule of the patent office so that those who benefit will pay for the services they receive. Legislation supporting these reforms will be submitted to the Congress.
- o The Administrator of the Small Business Administration will establish an Office of Small Business Patent Counsel to assist inventors in the transition from invention to small business by providing the ancillary business that attorneys rarely provide. To encourage the development of technologically-based minority businesses, a similar office will be established in the Office of Minority Business Enterprise and its activities will be coordinated with the SBA. All costs will be met by reprogramming.

CLARIFYING ANTI-TRUST POLICY

Anti-trust laws play a specific role in promoting innovation. Vigorous enforcement of anti-trust laws spurs competition -- and the pressure of competition is a stimulant to the development of innovations that provide a competitive edge. However, anti-trust laws are often and mistakenly understood to prevent cooperative activity, even in circumstances where it would foster innovation without harming competition.

The Domestic Policy Review revealed such misunderstanding in industry, universities, and government in instances where cooperative research is permissible, or where cooperation is not permissible.

- o Industry underinvests in longer-term basic research, largely because the pay-back is difficult to achieve. In long-term research particularly, the President believes some industry cooperation is desirable. This premise led to the cooperative automotive research program, announced by the President and auto industry executives following their meeting at the White House in May 1979.

The President is taking two actions that will clarify anti-trust policy and should spur greater research activity by industry:

- o The President is asking the Department of Justice to prepare a guide to clarify its position on collaboration among firms in research and development.
- o The President is requesting the Attorney General, the Chairman of the Federal Trade Commission, and the Secretary of Commerce to initiate discussions with industry about innovation, anti-trust policy formulation, and enforcement. The purpose is to dispel the perception that anti-trust policy inhibits innovation and to improve communication between industry, the Justice Department and the Federal Trade Commission.

FOSTERING THE DEVELOPMENT OF SMALL INNOVATIVE FIRMS

Small, high-technology firms provide the majority of the new innovations in our economy. The major problems facing entrepreneurs in new firms have been identified as: start-up capital, second-round financing, and early management assistance. The new capital gains structure has loosened the flow of second-round venture capital from private sector sources.

In addition to other actions that generally will benefit smaller R&D firms, the President is taking four specific steps to foster innovation in small, high-technology firms:

1. National Science Foundation Small Business Innovation Research Program

The National Science Foundation Small Business Innovation Research Program provides funding to small companies to permit development of a venture analysis for new projects and demonstrate technological feasibility. The program has operated for two years at \$2.5 million. It is applauded by both the small and big business communities. It has resulted in projects for which follow-on private-sector funding has been pledged.

- o The President has decided to expand the NSF program through an increase in FY 1981 of \$10 million. In addition, the President is directing the NSF to work with other agencies to determine whether similar programs should be established. The Office of Management and Budget will coordinate development of plans and goals for the expansion of these programs, working toward a goal of approximately \$150 million annual funding.

2. Corporations for Innovation Development

States or multi-state regions can join in the Federal government's efforts to spur innovation by establishing State or regional "Corporations for Innovation Development" (CID's). The goal is to help alleviate some of the difficulty an entrepreneur confronts in obtaining start-up capital. These CID's would be modeled partly after the successful National Research and Development Corporation in Great Britain and existing state corporations, such as the Connecticut Product Development Corporation. Their functions would include:

- Direct equity funding for the start-up of firms wishing to develop and bring to market a promising, but high-risk, innovation.
- Guidance to potential applicants to the National Science Foundation Small Business Program, including serving as the second-round guarantor in appropriate cases.
- Early management assistance to firms that are funded.
- When otherwise qualified, acting as the recipient of Economic Development Assistance funds for the State or region.

- o To lead the way for States or regions to establish CID's, the Federal government (through the Department of Commerce) will support two regional CID's in FY 1981. To provide breadth, one of these CID's will be in an industrial region, and the other in a less industrialized State or region. The Federal support will be in the form of loans of \$4 million per center, on the condition that the region provide matching funds.

3. Federal Support for Small R&D Businesses

Funding for new R&D is a problem for small firms. The small business community correctly believes that given their number, and the significance of their role in the innovation process, they receive a disproportionately low percentage of Federal R&D dollars. To deal with this, the President is directing each agency that contracts for R&D services to:

- o Develop policies ensuring that small businesses are not unfairly excluded from competition for contracts.
- o Publicize, through the SBA and the State or regional CID's, opportunities for bidding that are especially appropriate to small businesses.
- o Report their progress toward increasing small business participation annually to OMB.

4. General Venture Capital Availability

As the number of new start-ups increases, the demand for second-round financing will increase. While the capital gains tax changes have increased the flow from taxable private sector investors, the flow will be further encouraged by the following actions the President is taking:

- o The President is directing the Administrator of the Small Business Administration (SBA) to change Part 121.302(a) of the SBA regulations to permit Small Business Investment Companies (SBIC's) and private sector venture capital firms to co-invest in a small firm. The changes are subject to restrictions. There must be an identifiable independent entrepreneur in control of the firm. And there must not be a provision for acquisition by the private sector firm as part of its financing.

- o The Administration already has changed the Employment Retirement Income Security Act (ERISA) regulations to make it permissible for fund managers to invest in small, innovative businesses. In addition, the President will request the Administrators of ERISA and the SBA to establish an interagency committee to examine what regulatory changes or other means are needed to stimulate investment in small and medium-endowment funds. This will foster further availability of venture capital.

OPENING FEDERAL PROCUREMENT TO INNOVATIONS

New technology plays a critical role in promoting innovation. In a free enterprise system, however, marketplace incentives are the crucial motivators. This fact bestows a special responsibility on the Federal government, because it is the Nation's largest single purchaser of goods and services.

In the past, the Department of Defense and the National Aeronautics and Space Administration have shown convincingly the impact that Federal purchasing power can have as a marketplace stimulus. A pilot program at the Department of Commerce -- known as the Experimental Technology Incentives Program -- has demonstrated that the government can use its purchasing power to spur innovation in areas other than major systems development and high technology. The President will take actions intended to extend this experience to all Federal purchasing.

- o The President is directing the Administrator for Federal Procurement Policy in the Office of Management and Budget to introduce reforms in Federal procurement practices by establishing uniform procurement policies and regulations so as to remove barriers that inhibit the government from realizing benefits of industrial innovation. Special attention is to be given to the most innovative small and minority businesses.

-- Heads of executive agencies and establishments are being asked to designate senior officials to expedite implementation of new reforms.

-- Special attention is to be given to substituting performance specifications in place of design specifications, and, wherever feasible, selection will be on the basis of costs over the life of the item, rather than merely the initial purchase price.

- o The President is asking the Administrator, General Services Administration, to expand the New Item Introductory Schedule to publicize, within the Federal government, the existence of new items. To accomplish this, GSA will take steps to inform the business community -- particularly small businesses -- of the New Item Introductory Schedule and of its benefits.

IMPROVING OUR REGULATORY SYSTEM

Government regulations often influence industrial innovation, stimulating it in some cases and discouraging it in others. For example, some regulations provide incentives for inventing totally new processes to meet regulatory requirements. Other regulations can cause industry decisionmakers to divert resources from exploratory R&D into defensive research aimed only at ensuring compliance with government regulations.

The Carter Administration has a record of being sensitive to the need for a balanced approach to regulations, independently of the Domestic Policy Review on innovation. Previous actions the President already has taken that will have a favorable impact on industrial innovation include:

-- Deregulation of airlines and other industries. The President expects the pressure of competition to trigger innovative new ways to cut costs and improve service.

-- In environmental, health and safety regulation, the Administration is emphasizing cost-impact analysis to take account of regulatory burdens on industry. The President has formed the Regulatory Analysis Review Group and sent to Congress last spring the Regulatory Reform Act to make regulations more efficient and effective.

-- Last month, OMB reported substantial progress in the implementation of Executive Order 12044, which sets goals for improving Federal regulatory practices.

-- The President created the Regulatory Council to provide better coordination between the regulatory agencies. The Council is made up of the heads of 35 regulatory agencies. The Council is working to reduce inconsistencies and duplications between regulations, eliminate delays, reduce paperwork and generally keep the cost of compliance down. The Council publishes the Calendar of Federal Regulations which contains information about major regulations under development. This is intended to reduce uncertainty about future regulations. All of these reforms show the Administration's continuing efforts to offset negative effects of regulation on societal objectives.

In addition to these actions already taken, the President

is announcing today several decisions specifically in connection with improved innovation:

- o The Administrator of EPA will review the agency's programs to determine what further opportunities exist to substitute performance standards for design or specification standards within statutory authority. Specification standards should only be used when they are clearly justified. Regulatory agencies will also be encouraged to explore the possibility of providing dual criteria for either performance and specification standards, thereby allowing individual firms to choose the mode best suited for them.
- o In conjunction with their semiannual regulatory agenda, executive health, safety, and environmental regulatory agencies will prepare five-year forecasts of their priorities and concerns. Better knowledge of agency plans will allow industry to plan its research and development.
- o The EPA Administrator will develop and publicize a clear implementation policy and set of criteria for the award of "innovation waivers." He will assess the need for further statutory authority.
- o Federal executive agencies responsible for reviewing the safety and efficacy of products will develop and implement a system of priorities. Under these systems, the agencies will identify those products that are most innovative and/or have exceptional social benefits, and expedite their clearance reviews to the extent permitted by applicable statutes. These systems will affect the speed, but not the quality, of the agency's review.
- o To expedite the introduction of new drugs marketed in foreign countries and to expedite the U.S. drug review process, the President is asking the Administrator of the Food and Drug Administration to take steps to assure that our drug clearance process benefits from the foreign experience.

FACILITATING LABOR/MANAGEMENT ADJUSTMENT TO TECHNICAL CHANGE

Labor plays an important role in industrial innovation. Perceptions by investors of labor attitudes toward innovation influence the investors' willingness to move ahead. Labor, on the other hand, recognizes the importance of innovation and technological change, realizing that innovations that improve productivity commonly increase the number of workers employed within an industry over the long term. Labor also understands that entirely new industries have been created through innovation. Nevertheless, individual innovations often are perceived as a threat to labor because shifting skill mixes result.

The key to successful adjustment is warning time. Thus, a labor-technology forecasting system, supported cooperatively by labor and management, could be very valuable. Its purpose would be to attempt to forecast technological change within specific industries and to assess the implications for labor of such change. These forecasts and assessments could provide the basis for retraining and other adjustment activities by industry and labor. Labor has been advocating this approach for twenty years. It is long overdue. Therefore:

- o The President is directing the Secretary of Labor and the Secretary of Commerce to work jointly with labor and management to develop a national Labor/Technology Forecasting System. The President is requesting that they implement this new system in the context of ongoing labor-management activities, in conjunction with agencies responsible for adjustment assistance, and in cooperation with labor/management teams.

MAINTAINING A SUPPORTIVE CLIMATE FOR INNOVATION

The results of the Domestic Policy Review stressed the importance of a favorable climate in the U.S. receptive to new innovation and of perceived public attitudes toward innovation. Accordingly, the President plans three actions aimed at making a clear public commitment to ensure that innovation in this country thrives in the future.

- o Recognizing that future enhancements in industrial innovation lie primarily in the management/engineering area, the President is asking the Commerce Department and the National Science Foundation to host a National Conference for Deans of Business and Engineering Schools to stimulate improved curriculum development in technology management and entrepreneurship.
- o The President is establishing an award for technological innovation. The existence of this award will provide explicit encouragement to U.S. industry, symbolizing a national commitment to innovation. The awards will consist of a Presidential plaque given to companies in six areas: transportation, communication, health, agriculture and food, natural resources (including energy). The selection criteria will include both technical excellence and commercial impact. The Department of Commerce will be responsible for presenting the President with a list of nominees each year. The awards will be presented annually by the President's Science and Technology Advisor.
- o The President is asking the Productivity Council to form a committee charged with monitoring innovation, developing policies to encourage it, assisting the agencies in implementing these policies, and pursuing the removal of legislative or administrative barriers to the innovation process.

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