12. Science / Technology - Gibbons, Podesta, Gips, Sperling

SCIENCE AND TECHNOLOGY

BUILDING BLOCKS OF PILLAR	DESCRIPTION	TIMELINE	BENEFITS (e.g. Who does this help? How does it help them?)	COSTS/FEASIBILITY (e.g. What does it take to achieve? Who pays ($ or capital)? What is the likelihood it will occur?)	POLITICAL RAMIFICATIONS (e.g. How does it affect the party's
Climate change initiative	Increased R&D in technologies that will reduce greenhouse gases	Possible FY99 initiative Discussion by POTUS at Kyoto summit	Reduces risks of global warming, increases energy efficiency -Also helps specific industry sectors: (e.g. photovoltaics, autos, construction)	- Initiative should be co-funded by government and specific industrial sectors - Congress has tended to reduce funding for conservation & renewables	Likely to be least controversial portion of climate change policy
Overall funding of federal R&D	- Current level of federal R&D is ~$70 billion - Likely to decline by 15% in real terms between 1998 and 2002	Long-term	- Technology responsible for half of increase in productivity - A key "enabler" for all national goals (national security, healthier population, cleaner environment, a nation of learners)	- Hard to maintain support for R&D across the board given squeeze on discretionary spending - Could increase funding for a few key agencies (e.g. NSF, NIH, Commerce, DARPA) or topics (see below). A 7% increase(4% real) for NSF, for example, is ~$240 million in FY99 - Tobacco settlement possible source of funding for biomedical R&D	Both parties are for R&D at rhetorical level. Is some debate on "basic" vs. "applied."

SCIENCE AND TECHNOLOGY					
"Information Society"	Promote new applications of information technology through: - pilot projects - removing legal barriers - making gov't better user of IT	Long-term	- "Learning on demand" - workers - Online government - all citizens (key part of NPR) - Access for people with disabilities - Law enforcement: criminal databases, new wireless technologies - E-commerce: small & large businesses - Telemedicine, electronic medical records - patients, reduced admin. costs - Digital libraries and museums:	- Bipartisan support - Opportunities for cost-sharing - Challenge is that this is diffuse, cuts across almost all agencies - Could do a lot with cabinet leadership and small amounts of incremental funding in different agencies	Some issues are controversial (e.g. privacy, encryption) - but most are popular

SCIENCE AND TECHNOLOGY

"Grand Challenges"	President could set small # of grand challenges to motivate R&D agenda - target additional funding	- Long-term - President should set goals, call for development of research agenda	Examples: 1. How do we learn (early childhood development to adult)? How does the brain work? 2. Is there life on other planets? 3. How can we use molecular genetics and human genome to diagnose & cure diseases? 4. Can we slow the aging process? 5. How can we balance economic growth & environment, not only in U.S. but Third World? 6. How do we sustain Information Revolution into the 21st century (e.g. supercomputer-on-a-chip, tools for turning data in to knowledge, Next Generation Internet)? 7. What technologies will make the U.S. world's best manufacturer?	- Financing depends on topic. In information technology - current R&D spending is $1 billion - so 10 percent increase is $100 million/year - Strong bipartisan support for R&D, although constraints on discretionary spending make increases difficult	Popular

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dominate in D, Eclipse an, and ost the onomy	To ensure we continue to reap the long-term benefits of R&D, which are key to increasing U.S. productivity, commit to a growth rate in the federal non-defense R&D budget that tracks the growth rate of GDP	Starts with budget balance; endures with like-minded Administra-tions	American people; American businesses. R&D investments yield returns as high as 50 percent to society in terms of economic growth. New products and processes improve Americans' quality of life and enable firms to cut production costs and become more competitive in the global economy.	Beat inflation: TBD Beat GDP growth:$30 billion over 5 years Beat Japan: TBD Similar proposals exist now in Congress, which generally views S&T investment favorably.	Reclaims a Clinton-Gore priority from the Congress. Japan plans to double their R&D spending by 2002. If U.S. trend continues, Japan will overtake the U.S. in R&D -- in total dollars, not just as a share of GDP.
imate ange chnology tiative	Marshall the resources of the Cabinet agencies to bring climate change response technologies (PNGV, construction, biomass, et al.) onto the market ASAP Triple fuel economy of personal vehicles. Reduce new home energy use by 50 percent. Produce 120,000 barrels of biomass fuel per day by 2005.	Announce after White House Conference 10/6. First milestones in year 2000; effort extends into the next decade and beyond	Auto industry and suppliers, drivers, energy producers and users, homebuilders, homeowners, farmers, etc. benefit An integrated environmental/energy R&D strategy will move new technologies rapidly from laboratory to marketplace, enhancing competitivenss, increasing efficiency, and reducing oil imports.	TBD (depends on scope) Partnership between industry and the federal government.	Should enjoy strong industry support.

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pollo ssion" for an Energy	Implement the findings of the PCAST energy R&D strategy – a long-term strategic vision that includes a diverse portfolio of technologies, more efficient conversion of fossil fuels, lower carbon fuel usage, greater renewable energy usage -- as Administration policy	Decades of sustained energy R&D	People of the world, particularly our grandchildren. Creating a sustainable future in which environment, economic prosperity, and quality of life are mutually reinforcing.	TBD (depends on scope) .	Positive if the appropriate incentives are in place. But government funding for clean energy has been difficult to sustain in the past.
treme mputing: isis recasting and nagement	Ensure, through deployment of extreme-scale computers (10,000 times faster than the most powerful systems available today) that the U.S. can predict, plan for, and effectively manage local, regional, and global crisis events (e.g. epidemics, floods, drought, wildfire, hurricanes, earthquakes, toxic releases, displaced populations, terrorism, political and economic instability).	1998-2008 1998: Deploy 1 TeraFlop capability 1999: Predict the course of wildfire in the field. 2000: Deploy 5 Teraflop capability 2008: Deploy PetaFlop extreme capability	Visibly increase the health, well-being and security of the U.S. and world population; reduce resource and fiscal outlays due to crisis events; attract talented young people to careers in science and technology; revitalize and stabilize the U.S. supercomputer industry.	Hardware: $2 billion over 10 years R&D: $3 billion over 10 years Data collection: $1 billion over 10 years.	Unambiguous credit to the Administration. U.S. leadership in the international community in reducing human suffering.

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tional onomic ossroads insportation iciency Act EXTEA)	Highway trust fund to maintain existing highway structure; supports new sustainable transportation activity; intelligent highway system; and reshapes automated highway system using new technologies; includes new strategies for working with states and industry	6 years	Addresses climate change concerns, promotes well maintained roads, reduces congestion, adds to safety, improves emergency vehicle responses. Benefits to commuters; trucking industry; police, fire, rescue; manufacturers of new equipment (dashboard displays, highway sensors); information service providers (telecom firms, firms selling new information services to commuters).	$21 billion annually for next six years.	No strong adversaries. More support in the Northeast and the West where states are net dollar recipient states. More opposition from donor states in South and Midwest. Disagreements over formulas for distribution of expenditures.

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Next Generation Housing	Establish private-public R&D partnership to apply advanced technologies from other manufacturing sectors to the construction industry with the goal of reducing resource use of residential and commercial buildings by a factor of two or more; more efficient and sustainable housing.	Pilot projects (5000 homes in 1998). All new housing by 2010.	Addresses climate change concerns (buildings use 1/3 of all energy consumed in the U.S. and contribute 1/3 of CO_2 emissions); reduces construction costs; increases productivity, improves product quality in construction, reduces workplace accidents. Construction industry is 8 percent of GDP and employs 3.5 million.	May require major effort to address fragmented state and local regulation	Potential technology fix to address concerns of regulators and insurance companies. Major supporters likely to be environmental groups, labor, states prone to natural disasters such as hurricanes and earthquakes.
Next Generation Internet	Accelerate advanced network technologies; connect universities and federal institutions with highspeed network 1,000 times faster than today's; develop revolutionary applications to meet important national goals and missions.	Initial commitment to 3 years; implementation plans to 5 years	Benefits all facets of the economy: R&D, manufacturing, services, end-users. More efficient knowledge discovery and information dissemination that aids research and education.	$105 million/year; currently before Congress for authorization and appropriation	Need to shore up bi-partisan support by distinguishing this research program from short-term technical improvements by the private sector and from connections programs. Fulfills State of the Union pledge.

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ext eneration Air raffic Control	Implement the recommendations of the White House Commission on Aviation Safety and Security, including investment in computer and communication technology combining complex systems in satellites, ground control computers, weather sensors, and advanced avionics and control systems in aircraft.	5 years	Gains in efficiency and safety of air travel benefit air travelers/shippers, airlines, air manufacturers; markets for vendors of advanced communication and computation equipment.	$500 million over 5 years (NASA)	Airline safety is a highly visible issue. Additional safety measures can prevent accidents.
ıternational pace Station	Fourteen nation project to build an orbiting, permanently manned space station.	First component launched in 1998; permanent residence by 1999.	Unique, cutting edge research facility will have benefits for health care, environment, and commercial space sectors.	Estimated $17-19 billion to develop and $10 billion to operate for 10 years.	Program has strong bipartisan support. Core support in TX, FL, and CA. Competes in House appropriations process with other priorities, such as veterans, EPA, and HUD.
ducational echnologies ıitiative	Connect every classroom to the Internet; develop educational software (large R&D component); train teachers – including a Master Teacher program; emphasize online content; evaluate the impact of technology on student performance.	Major components complete by 2000	Children (future workers; future employers); teachers.	$100(s) millions	Popular if results are visible.

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hnology for ning and long rning	Promote development of software and systems architectures for instruction in business and government training markets.	~2000	Results in a more flexible, better trained workforce; increases worker accessibility to training; increases efficiency of business and government training expenditures; creates new markets for training content and delivery mechanisms; ultimate widespread local, regional, and national economic benefits, including investment incentives associated with having highly-trained workers. Benefits to all employers; opens new opportunities for small and medium employers; organized labor interested in better buy for training dollar and from portable credentials.	Able to leverage off of drive towards best commercial practice in government procurement systems. Can link government agencies and corporations to assess common training needs and help define voluntary standards that can guide acquisitions and accelerate development of a market.	Likely to garner bipartisan support.

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prove U.S. udents' cademic rformance in ath and ience	Collaboration between Department of Education and National Science Foundation and 12 other agencies with K-12 programs	Ongoing	Children (future workers; future employers) Prepares U.S. children to live and work in a society that is becoming more knowledge-based and technology-intensive.	Some redirection of Title I, Goals 2000, and Eisenhower monies. Up to $500 million for research and evaluation of education tools	The Administration seeks a shared commitment to this investment in a collective future; however, charges of federal imposition on state and local prerogatives could be leveled.
ildren's search itiative	Conduct the research to understand what specific developmental, health, educational, and social requirements that will enable children to reach their full potential	At least a decade	Every sector of society will benefit from having a healthy, educated, and productive population; major potential impacts on reducing social ills	Considerable ($50-100 million)	Strong bipartisan support for helping children; however, resistance to funding research, particularly social sciences, may arise.

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id lenges: ins arch	We do not know how old the universe is, what it is made of, or what its fate will be. We do not know what generates mass in the basic building blocks of matter. We do not know if stars other than our own have earth-like planets capable of sustaining life, and we do not yet have the ability to detect life, or good methods of detecting planets themselves. We do not understand four-dimensional geometries of space and time. We don't know whether antimatter comes from other galaxies, or whether the universe is predominantly constituted of dark matter. We do not know how to plan a mission to Mars that would not result in a dangerously unhealthy crew.	25 years (in stages)	All Americans; spin-offs into industry likely. Helps sustain U.S. leadership across the frontiers of scientific knowledge – an economic and security imperative.	TBD (depends on scope)	Visionary. Would get bipartisan support, especially given the recent acclaim of Mars Pathfinder; generates international interest and collaboration.

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rand hallenges: ife Sciences	We do not know all the specific genes whose mutations contribute to the development and progression of cancer, nor do we understand the mechanisms by which they do it. We do not know how and why cells die. We do not know why tumor cells migrate to new sites in the body. We do not know the threshold of safe exposure of living organisms to radiation. We do not know how viruses form their elegant, geometric structures from commonly occurring protein building blocks, nor do we understand the role of these structures in the infection process. We do not know how living cells interact with molecules of nonliving materials.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

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ınd allenges: ysical ences	We do not know how to produce material with no waste by-products. We do not know how to convert solar energy into practical, cost-efficient fuels for a wide variety of applications, nor we do know how to create advanced fuels for nuclear fission reactors. We do not know how to extract all the energy from existing fuel sources. We do not know how to design catalysts for many important chemical reactions. We do not fully understand how "high-temperature super-conductivity works.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

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rand hallenges: conomic, ocial, and ehavioral ciences	We do not know why national economies grow at such different rates either at a particular moment, or over time. We do not know how best to use our information infrastructure and new media to promote learning among children. We do not know how the vast store of instantly available information can or will be understood and used. We do not know how we learn or remember, or how we think and communicate. We do not understand the relationship between language and thought. We do not know why or how it is that some children seem to learn to read with all the ease with which all children acquire language.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

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Science Tech- gy to eve Global lity	A PDD to all agencies to develop and implement clear strategies for international engagement that supports U.S. science and technology and foreign policy goals. Top priorities for international S&T cooperation: 1)slow the pace of emerging infectious diseases, 2) achieve sustainable development in China, and 3) ease Russia's transition to a stable economy.	12 months	S&T international collaboration bolsters preventive diplomacy and promotes global stability and security while reducing costs to taxpayers.	Largely a reprioritization of agency funds.	Bipartisan support.
nology for s Control	Develop technical approaches to ensuring that sophisticated conventional weapons that fall into the wrong hands do not work for long.	By July 1999	All Americans; American arms dealers	Costs for development and implementation low.	U.S. would need to provide assurances that the U.S. would continue to service the weapons purchased (legitimately) abroad. Unilateral action would be effective, but international negotiations would be needed for a larger impact. The U.S. could take the lead in a high-tech arms control strategy.

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Scientific Facilities Initiative	The next large scale research facility that will be built in this country is the National Spallation Neutron Source. Plans are well underway, but construction and operating funds are not within current outyear budgets.	Complete in 2005 (if budgets sufficient).	The facility will be an enormous boost to scientists and to industries relying on advanced materials for present and future technologies. The U.S. would finally have a neutron source competitive with those of Europe and Japan.	$1.3 billion	The Administration has already committed to this project. However, if funds to build and operate the NSNS come out of existing DOE research budgets, there may be significant fallout from Congress and the scientific community.

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ın me :t/Genetic cine	Mapping and sequencing of the human genome are critical components of genetic medicine – the application of DNA technologies to the diagnosis, treatment, and prevention of disease. Most complicated diseases of modern life – cancer, heart disease, diabetes, arthritis, and a host of neuropsychiatric disordeers – seem to result from the activities of several genes and the interactions between the human body and its environment. We can anticipate many new discoveries to follow recent identification of obesity genes, genes for aging, neurological disease genes, and cancer genes. We can also design rational therapies once gene structure is understood.	Sequence of the Human Genome by 2004 (at latest); individual genes and therapies announced one by one.y	All people.	$$XX	Scientific elements of program are popular, but applications raise serious ethical questions.

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tional Food nome tiative	Food production is the nation's largest industry -- about 15 percent of GDP. Increasing our agricultural productivity depends on our investments in science and technology. Support for this program will result in detailed knowledge on the genetic structure of agriculturally important plants and animals. Increase U.S. exports by XX; increase agricultural productivity by XX.	10-15 years	Farmers, processors, and consumers	$100 million per year	Strong bipartisan support for this area of research.
tegrate S&T d Social alues	Codify the National Bioethics Advisory Committee Ensure On-Line Privacy Enforce Public Interest Obligations for Digital TV	6 months 6 months; ongoing By 2000 (in tandem with introduction)	Current and future patients in the health care system. All vendors and consumers of all services. Electorate.	$2.5 million per year for operations of the Committee. TBD TBD	Strong bipartisan support for an ethics commission confounded by tendency litmus testing of members. Strong bipartisan support. Complicated by positions on campaign finance reform.

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ducing cism and proving Life ances	Racism prevents development of talent, full participation in the workforce, and wealth creation. This research initiative will describe the state-of-knowledge about the root causes of racism and identify research gaps. Issues such as the interaction of culture, race, and language with biology; early human development; why humans are not unique in responding to "differences;" and persistent beliefs about nature-nurture and science literacy will be examined.	6 months to 2 years	All Americans. It will help achieve better understanding of the economic as well as social costs of racism.	$25 million annually for the research program likely to be identified by the preliminary effort. This is achievable as an integral part of the Race Initiative.	Has bipartisan support, but could engender backlash against special treatment in trying to understand barriers faced by racial/ethnic minorities. Could also engender opposition from the African American community, which is typically cautious about "race studies."

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ncer search tiative	Revitalize the war on cancer by seizing upon recent advances in science to better prevent, detect, diagnose, and treat cancer.	Start in FY 1999.	Reduce cancer deaths by 10-20 percent using existing technology. Generate dozens of new specialized tools to prevent, detect, diagnose, and treat cancer, fundamentally changing the way medicine battles cancer.	TBD	Will have strong bipartisan support. Million plus person march planned for Fall 1998.
DS Research tiative (to be vided 8/14)					
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ar in lebration of ience	End: Decade of the Brain. Start: Decade of the Mind End: Decade of Natural Disaster Reduction. Start: International Decade of Disaster Resilience Launch of integrated global observing system. Challenging extreme frontiers Virtual Global Science Fair.	Year 2000	Americans generally	TBD (depends on scope); could be cost-shared with State and local governments, NGOs, and industry.	Would get bipartisan support for the notion of leading the world into the coming century by pioneering advances in science and technology.

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lominate in D, Eclipse un, and st the nomy	To ensure we continue to reap the long-term benefits of R&D, which are key to increasing U.S. productivity, commit to a growth rate in the federal non-defense R&D budget that tracks the growth rate of GDP	Starts with budget balance; endures with like-minded Administra-tions	American people; American businesses. R&D investments yield returns as high as 50 percent to society in terms of economic growth. New products and processes improve Americans' quality of life and enable firms to cut production costs and become more competitive in the global economy.	Beat inflation: TBD Beat GDP growth:$30 billion over 5 years Beat Japan: TBD Similar proposals exist now in Congress, which generally views S&T investment favorably.	Reclaims a Clinton-Gore priority from the Congress Japan plans to double their R&D spending by 2002. If U.S. trend continues, Japan will overtake the U.S. in R&D -- in total dollars, not just as a share of GDP.
nate nge hnology iative	Marshall the resources of the Cabinet agencies to bring climate change response technologies (PNGV, construction, biomass, et al.) onto the market ASAP Triple fuel economy of personal vehicles. Reduce new home energy use by 50 percent. Produce 120,000 barrels of biomass fuel per day by 2005.	Announce after White House Conference 10/6. First milestones in year 2000; effort extends into the next decade and beyond	Auto industry and suppliers, drivers, energy producers and users, homebuilders, homeowners, farmers, etc. benefit An integrated environmental/energy R&D strategy will move new technologies rapidly from laboratory to marketplace, enhancing competitivenss, increasing efficiency, and reducing oil imports.	TBD (depends on scope) Partnership between industry and the federal government.	Should enjoy strong industry support.

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pollo ission" for ean Energy	Implement the findings of the PCAST energy R&D strategy – a long-term strategic vision that includes a diverse portfolio of technologies, more efficient conversion of fossil fuels, lower carbon fuel usage, greater renewable energy usage -- as Administration policy	Decades of sustained energy R&D	People of the world, particularly our grandchildren. Creating a sustainable future in which environment, economic prosperity, and quality of life are mutually reinforcing.	TBD (depends on scope)	Positive if the appropriate incentives are in place. But government funding for clean energy has been difficult to sustain in the past.
xtreme omputing: risis orecasting and lanagement	Ensure, through deployment of extreme-scale computers (10,000 times faster than the most powerful systems available today) that the U.S. can predict, plan for, and effectively manage local, regional, and global crisis events (e.g. epidemics, floods, drought, wildfire, hurricanes, earthquakes, toxic releases, displaced populations, terrorism, political and economic instability).	1998-2008 1998: Deploy 1 TeraFlop capability 1999: Predict the course of wildfire in the field. 2000: Deploy 5 Teraflop capability 2008: Deploy PetaFlop extreme capability	Visibly increase the health, well-being and security of the U.S. and world population; reduce resource and fiscal outlays due to crisis events; attract talented young people to careers in science and technology; revitalize and stabilize the U.S. supercomputer industry.	Hardware: $2 billion over 10 years R&D: $3 billion over 10 years Data collection: $1 billion over 10 years.	Unambiguous credit to the Administration. U.S. leadership in the international community in reducing human suffering.

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lational conomic rossroads ransportation fficiency Act NEXTEA)	Highway trust fund to maintain existing highway structure; supports new sustainable transportation activity; intelligent highway system; and reshapes automated highway system using new technologies; includes new strategies for working with states and industry	6 years	Addresses climate change concerns, promotes well maintained roads, reduces congestion, adds to safety, improves emergency vehicle responses. Benefits to commuters; trucking industry; police, fire, rescue; manufacturers of new equipment (dashboard displays, highway sensors); information service providers (telecom firms, firms selling new information services to commuters).	$21 billion annually for next six years.	No strong adversaries. More support in the Northeast and the West where states are net dollar recipient states. More opposition from donor states in South and Midwest. Disagreements over formulas for distribution of expenditures.

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ext eneration ousing	Establish private-public R&D partnership to apply advanced technologies from other manufacturing sectors to the construction industry with the goal of reducing resource use of residential and commercial buildings by a factor of two or more; more efficient and sustainable housing.	Pilot projects (5000 homes in 1998). All new housing by 2010.	Addresses climate change concerns (buildings use 1/3 of all energy consumed in the U.S. and contribute 1/3 of CO_2 emissions); reduces construction costs; increases productivity, improves product quality in construction, reduces workplace accidents. Construction industry is 8 percent of GDP and employs 3.5 million.	May require major effort to address fragmented state and local regulation	Potential technology fix to address concerns of regulators and insurance companies. Major supporters likely to be environmental groups, labor, states prone to natural disasters such as hurricanes and earthquakes.
ext eneration ıternet	Accelerate advanced network technologies; connect universities and federal institutions with highspeed network 1,000 times faster than today's; develop revolutionary applications to meet important national goals and missions.	Initial commitment to 3 years; implementation plans to 5 years	Benefits all facets of the economy: R&D, manufacturing, services, end-users. More efficient knowledge discovery and information dissemination that aids research and education.	$105 million/year; currently before Congress for authorization and appropriation	Need to shore up bi-partisan support by distinguishing this research program from short-term technical improvements by the private sector and from connections programs. Fulfills State of the Union pledge.

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xt neration Air ffic Control	Implement the recommendations of the White House Commission on Aviation Safety and Security, including investment in computer and communication technology combining complex systems in satellites, ground control computers, weather sensors, and advanced avionics and control systems in aircraft.	5 years	Gains in efficiency and safety of air travel benefit air travelers/shippers, airlines, air manufacturers; markets for vendors of advanced communication and computation equipment.	$500 million over 5 years (NASA)	Airline safety is a highly visible issue. Additional safety measures can prevent accidents.
rnational ce Station	Fourteen nation project to build an orbiting, permanently manned space station.	First component launched in 1998; permanent residence by 1999.	Unique, cutting edge research facility will have benefits for health care, environment, and commercial space sectors.	Estimated $17-19 billion to develop and $10 billion to operate for 10 years.	Program has strong bipartisan support. Core support in TX, FL, and CA. Competes in House appropriations process with other priorities, such as veterans, EPA, and HUD.
ucational chnologies tiative	Connect every classroom to the Internet; develop educational software (large R&D component); train teachers – including a Master Teacher program; emphasize online content; evaluate the impact of technology on student performance.	Major components complete by 2000	Children (future workers; future employers); teachers.	$100(s) millions	Popular if results are visible.

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chnology for aining and felong arning	Promote development of software and systems architectures for instruction in business and government training markets.	~2000	Results in a more flexible, better trained workforce; increases worker accessibility to training; increases efficiency of business and government training expenditures; creates new markets for training content and delivery mechanisms; ultimate widespread local, regional, and national economic benefits, including investment incentives associated with having highly-trained workers. Benefits to all employers; opens new opportunities for small and medium employers; organized labor interested in better buy for training dollar and from portable credentials.	Able to leverage off of drive towards best commercial practice in government procurement systems. Can link government agencies and corporations to assess common training needs and help define voluntary standards that can guide acquisitions and accelerate development of a market.	Likely to garner bipartisan support.

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nprove U.S. tudents' cademic erformance in lath and cience	Collaboration between Department of Education and National Science Foundation and 12 other agencies with K-12 programs	Ongoing	Children (future workers; future employers) Prepares U.S. children to live and work in a society that is becoming more knowledge-based and technology-intensive.	Some redirection of Title I, Goals 2000, and Eisenhower monies. Up to $500 million for research and evaluation of education tools	The Administration seeks a shared commitment to this investment in a collective future; however, charges of federal imposition on state and local prerogatives could be leveled.
hildren's esearch itiative	Conduct the research to understand what specific developmental, health, educational, and social requirements that will enable children to reach their full potential	At least a decade	Every sector of society will benefit from having a healthy, educated, and productive population; major potential impacts on reducing social ills	Considerable ($50-100 million)	Strong bipartisan support for helping children; however, resistance to funding research, particularly social sciences, may arise.

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DING KS OF AR	DESCRIPTION	TIMELINE	BENEFITS (e.g. Who does this help? How does it help them?)	COSTS/FEASIBILITY (e.g. What does it take to achieve? Who pays ($ or capital)? What is the likelihood it will occur?)	POLITICAL RAMIFICATIONS (e.g. How does it affect the party?)
d lenges: ins arch	We do not know how old the universe is, what it is made of, or what its fate will be. We do not know what generates mass in the basic building blocks of matter. We do not know if stars other than our own have earth-like planets capable of sustaining life, and we do not yet have the ability to detect life, or good methods of detecting planets themselves. We do not understand four-dimensional geometries of space and time. We don't know whether antimatter comes from other galaxies, or whether the universe is predominantly constituted of dark matter. We do not know how to plan a mission to Mars that would not result in a dangerously unhealthy crew.	25 years (in stages)	All Americans; spin-offs into industry likely. Helps sustain U.S. leadership across the frontiers of scientific knowledge – an economic and security imperative.	TBD (depends on scope)	Visionary. Would get bipartisan support, especially given the recent acclaim of Mars Pathfinder; generates international interest and collaboration.

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BUILDING BLOCKS OF PILLAR	DESCRIPTION	TIMELINE	BENEFITS (e.g. Who does this help? How does it help them?)	COSTS/FEASIBILITY (e.g. What does it take to achieve? Who pays ($ or capital)? What is the likelihood it will occur?)	POLITICAL RAMIFICATIONS (e.g. How does it affect the party?)
Grand Challenges: Life Sciences	We do not know all the specific genes whose mutations contribute to the development and progression of cancer, nor do we understand the mechanisms by which they do it. We do not know how and why cells die. We do not know why tumor cells migrate to new sites in the body. We do not know the threshold of safe exposure of living organisms to radiation. We do not know how viruses form their elegant, geometric structures from commonly occurring protein building blocks, nor do we understand the role of these structures in the infection process. We do not know how living cells interact with molecules of nonliving materials.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

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and allenges: ysical iences	We do not know how to produce material with no waste by-products. We do not know how to convert solar energy into practical, cost-efficient fuels for a wide variety of applications, nor we do know how to create advanced fuels for nuclear fission reactors. We do not know how to extract all the energy from existing fuel sources. We do not know how to design catalysts for many important chemical reactions. We do not fully understand how "high-temperature super-conductivity works.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

SCIENCE AND TECHNOLOGY PILLAR (REVIEW DRAFT: 8/13/97 PM)

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;rand :hallenges: :conomic, ;ocial, and 3ehavioral ;ciences	We do not know why national economies grow at such different rates either at a particular moment, or over time. We do not know how best to use our information infrastructure and new media to promote learning among children. We do not know how the vast store of instantly available information can or will be understood and used. We do not know how we learn or remember, or how we think and communicate. We do not understand the relationship between language and thought. We do not know why or how it is that some children seem to learn to read with all the ease with which all children acquire language.	Decades	All people; spinoffs into medicine, food production, other industries likely.	TBD	Noncontroversial

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e Science l Tech- logy to hieve Global ibility	A PDD to all agencies to develop and implement clear strategies for international engagement that supports U.S. science and technology and foreign policy goals. Top priorities for international S&T cooperation: 1)slow the pace of emerging infectious diseases, 2) achieve sustainable development in China, and 3) ease Russia's transition to a stable economy.	12 months	S&T international collaboration bolsters preventive diplomacy and promotes global stability and security while reducing costs to taxpayers.	Largely a reprioritization of agency funds.	Bipartisan support.
chnology for ms Control	Develop technical approaches to ensuring that sophisticated conventional weapons that fall into the wrong hands do not work for long.	By July 1999	All Americans; American arms dealers	Costs for development and implementation low.	U.S. would need to provide assurances that the U.S. would continue to service the weapons purchased (legitimately) abroad. Unilateral action would be effective, but international negotiations would be needed for a larger impact. The U.S. could take the lead in a high-tech arms control strategy.

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n ne t/Genetic ine	Mapping and sequencing of the human genome are critical components of genetic medicine – the application of DNA technologies to the diagnosis, treatment, and prevention of disease. Most complicated diseases of modern life – cancer, heart disease, diabetes, arthritis, and a host of neuropsychiatric disordeers – seem to result from the activities of several genes and the interactions between the human body and its environment. We can anticipate many new discoveries to follow recent identification of obesity genes, genes for aging, neurological disease genes, and cancer genes. We can also design rational therapies once gene structure is understood.	Sequence of the Human Genome by 2004 (at latest); individual genes and therapies announced one by one.y	All people.	$$XX	Scientific elements of program are popular, but applications raise serious ethical questions.

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nal Food me tive	Food production is the nation's largest industry -- about 15 percent of GDP. Increasing our agricultural productivity depends on our investments in science and technology. Support for this program will result in detailed knowledge on the genetic structure of agriculturally important plants and animals. Increase U.S. exports by XX; increase agricultural productivity by XX.	10-15 years	Farmers, processors, and consumers	$100 million per year	Strong bipartisan support for this area of research.
rate S&T Social es	Codify the National Bioethics Advisory Committee Ensure On-Line Privacy Enforce Public Interest Obligations for Digital TV	6 months 6 months; ongoing By 2000 (in tandem with introduction)	Current and future patients in the health care system. All vendors and consumers of all services. Electorate.	$2.5 million per year for operations of the Committee. TBD TBD	Strong bipartisan support for an ethics commission confounded by tendency litmus testing of members. Strong bipartisan support. Complicated by positions on campaign finance reform.

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ncer search itiative	Revitalize the war on cancer by seizing upon recent advances in science to better prevent, detect, diagnose, and treat cancer.	Start in FY 1999.	Reduce cancer deaths by 10-20 percent using existing technology. Generate dozens of new specialized tools to prevent, detect, diagnose, and treat cancer, fundamentally changing the way medicine battles cancer.	TBD	Will have strong bipartisan support. Million plus person march planned for Fall 1998
IDS Research itiative (to be ovided 8/14)					
hildren's ncephalitis accine itiative (to be rovided 8/14)					

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r in ebration of ence	End: Decade of the Brain. Start: Decade of the Mind End: Decade of Natural Disaster Reduction. Start: International Decade of Disaster Resilience Launch of integrated global observing system. Challenging extreme frontiers Virtual Global Science Fair.	Year 2000	Americans generally	TBD (depends on scope); could be cost-shared with State and local governments, NGOs, and industry.	Would get bipartisan support for the notion of leading the world into the coming century by pioneering advances in science and technology.

13. Racial Reconciliation - Echaveste

RACIAL RECONCILIATION PILLAR

BUILDING BLOCKS OF PILLAR	DESCRIPTION	TIMELINE	BENEFITS (e.g. Who does this help? How does it help them?)	COSTS/FEASIBILITY (e.g. What does it take to achieve? Who pays ($ or capital)? What is the likelihood it will occur?)	POLITICAL RAMIFICATIONS (e.g. How does it affect the party?)
Strong civil rights enforcement	Ensure that federal civil rights laws are enforced aggressively Ensure that federal government becomes a model workplace with effective methods of resolving discrimination issues	multi-year effort	Results in renewed confidence of minority communities in federal government as protector of civil rights, such as in employment, housing, education Sends message to public that illegal acts of discrimination will not be tolerated, thereby making public more aware of unacceptability of discrimination	Would require a thorough review of current budget outlays for various civil rights enforcement agencies Would require thorough analysis of effectiveness of enforcement agencies After such analysis and review, would likely require budget increases for enforcement agencies In the federal government, would require possible negotiations with federal employee unions on EEO and grievance procedures	

RACIAL RECONCILIATION PILLAR					
Fair and equitable criminal justice system	Ensure that policing strategies are both effective and race-neutral Ensure that penal system achieves goals of appropriate punishment, rehablitation and effective deterrence in race-neutral fashion	multi-year	Results in increasing minority communities' confidence in criminal justice system Restores and renews belief in equal justice under the law Results in alternative strategies to reduce recividism	Would require honest analysis of current criminal justice system and its racial inequalities Would require increasing public's awareness that resources spent on alternative punishment and prevention models result in lower overall costs Could be viewed as becoming soft on crime	

RACIAL RECONCILIATION PILLAR

Fair and equitable educational opportunity	Ensure that children of all incomes and races receive a quality education	multi-year	Should reduce need for affirmative action in post-secondary education Results in minority children not having inferior sense of self	See Education Pillar/costs and feasibility analysis	
Fair Affirmative Action Programs	Ensure that programs designed to promote diversity do not create division instead	1-3 years	Results in unifying Americans in shared belief in equality of opportunity	If not carefully done, could be viewed as retreat from affirmative action Requires balance between objectives of affirmative action and costs of promoting race/gender based programs Requires finding effective strategies that result in diversity without utilizig race/gender factors which may laudable but not feasible	
Respectful Incorporation of New Immigrants into American Society	Ensure that new legal immigrants become part of America and share its values in manner that is respectful of our cultural differences Ensure that we find effective mechanisms to	multi-year	Results in reducing fear of immigrants as changing core values of country As country becomes multi-ethnic society, reduces hostility Recognizes the positive contributions that immigrants bring to country	Could be seen as becoming soft on illegal immigration Requires development of absorption strategies that respect cultural differences--not sure it can be done Requires new approaches re language differences that do not create hostility	

14. REGO / Effectiveness of Government - Stone

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REINVENT TO IMPROVE PUBLIC TRUST IN GOVERNMENT

ilding Blocks of ller	Description	Timeline	Benefits	Costs/Feasibility	Political Ramifications
) from examples of invention to entire invented agencies.	NPR will work directly with 32 high-impact agencies to dramatically improve their operations. Vice President Gore has already met with agency heads involved and told them this is one of his most important initiatives.	3 years.	Focuses on more than 200 specific, concrete goals to be completed by 2000. For example, DOD will internally shift $13 billion in resources to modernize forces by cutting administrative costs . NASA will cut payload costs from $10,000/lb. to $1,000/lb. and launch more satellites. FDA will cut one year from major drug approvals.	Will be done in the context of a balanced budget. Any increased costs will be borne through increased operational efficiencies. Agencies have committed to completion by 2000, with the help of NPR.	Increased public confidence in government to deliver services. Would have strong bipartisan support.
iprove customer rvice to the public.	Cut red tape and empower employees to better serve their customers. Agencies have already publicly committed to more than 4,000 service standards.	3 years.	Helps the public at first point of contact, which will reduce costs and errors and increase public satisfaction with services. It will also improve employee satisfaction with their jobs.	This will take concerted, sustained leadership attention to change the behavior of the bureaucracy to put customers first.	Increased public confidence in government to deliver services. Would have strong bipartisan support.
se technology to iprove public access government.	An interagency task force has already committed to 18 specific initiatives ("Access America") that will dramatically improve citizens' interaction with government	3 years.	Technology will allow direct citizen interaction, for example paperless tax filing, instant access to environmental hazard information, and getting student loans on the Internet.	Need to solve privacy and security issues and build cooperation across agency lines.	Strong bipartisan support.

Use partnerships to reinvent regulatory systems.	Expand compliance assistance and collaboration for "good players" and better target enforcement actions on "bad players."	3 years.	Cleaner air, safer workplaces, safer food, etc.. Will also improve international competitiveness and relations with the business community -- and blunt Republican efforts to lessen the national commitment to health and safety goals.	Need to dramatically change the internal cultures in key regulatory agencies (e.g, OSHA, IRS, EPA, FDA) and bring Congress along.	Traditional stakeholders (unions, environmentalists, consumer advocates) have been wedded to the traditional approaches and are wary of more collaborative approaches.
Follow through on previous Reinvention commitments.	NPR has been charged with follow through of more than 1,500 recommendations and has completed more than half. It is committed to progress on the remainder.	3 years.	Savings have reached $130 billion out of $178 billion promised; downsizing has been completed 2 years ahead of schedule. This progress and sustained follow through has created the credibility needed to make the more difficult changes in agency culture.	It will be difficult to change the basic "rules of the game," especially in the budget and personnel systems. These changes would greatly enhance efforts to reinvent agency cultures to be more results-based.	There is no clear political consensus on moving forward in these difficult areas. Unions are reluctant to support personnel reform; Congress is reluctant to support budget or personnel reform.

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REINVENT TO IMPROVE PUBLIC TRUST IN GOVERNMENT

Building Blocks of Pillar	Description	Timeline	Benefits	Costs/Feasibility	Political Ramifications
Go from examples of reinvention to entire reinvented agencies.	NPR will work directly with 32 high-impact agencies to dramatically improve their operations. Vice President Gore has already met with agency heads involved and told them this is one of his most important initiatives.	3 years.	Focuses on more than 200 specific, concrete goals to be completed by 2000. For example, DOD will internally shift $13 billion in resources to modernize forces by cutting administrative costs .. NASA will cut payload costs from $10,000/lb. to $1,000/lb. and launch more satellites. FDA will cut one year from major drug approvals.	Will be done in the context of a balanced budget. Any increased costs will be borne through increased operational efficiencies. Agencies have committed to completion by 2000, with the help of NPR.	Increased public confidence in government to deliver services. Would have strong bipartisan support.
Improve customer service to the public.	Cut red tape and empower employees to better serve their customers. Agencies have already publicly committed to more than 4,000 service standards.	3 years.	Helps the public at first point of contact, which will reduce costs and errors and increase public satisfaction with services. It will also improve employee satisfaction with their jobs.	This will take concerted, sustained leadership attention to change the behavior of the bureaucracy to put customers first.	Increased public confidence in government to deliver services. Would have strong bipartisan support.
Use technology to improve public access to government.	An interagency task force has already committed to 18 specific initiatives ("Access America") that will dramatically improve citizens' interaction with government	3 years.	Technology will allow direct citizen interaction, for example paperless tax filing, instant access to environmental hazard information, and getting student loans on the Internet.	Need to solve privacy and security issues and build cooperation across agency lines.	Strong bipartisan support.

add human resource component

LONG-TERM PLANNING

Critical Budget Processes

Crime and Drugs

- Preserve full funding for: COPS program (and maintain 100,000 cops goal) and anti-drug youth media campaign. Expand funding for criminal justice drug testing and treatment; ATF agents to investigate gun traffickers; increased Border Patrol agents and Southwest border technology improvements. Ensure sufficient funds for prosecutors, and probation officers as part of juvenile crime block grant; and secure funds for new community prosecutors initiative during appropriations process.

Legislative Priorities

1. **Juvenile Crime Bill**
   - Must ensure that President's priorities are included in Senate and final versions of juvenile crime legislation, including funding for prosecutors, probation officers and after school programs, and violent juvenile gun ban (Brady). House passed two related bills; full Senate likely to consider after Easter recess.

2. **Crack Cocaine Sentencing Reform**
   - Recommendation to revise current crack and powder cocaine sentences approved by President. Interagency work group developed long-term strategy to enact Administration's proposed sentencing structure. Working with Congressional staff and outside groups to build support for Administration proposal and defend against Republican alternatives. However, Senators Lott, Hatch and Abraham have expressed that might move to consider different proposal this spring as part of ONDCP's reauthorization legislation.

3. **Money Laundering Legislation**
   - Working with Treasury and Justice to build on our expanded Geographic Targeting Order (GTO) through a final regulation and introduce Administration legislation on money laundering.

4. **International Crime**
   - Justice preparing to transmit modified version of international crime bill in late February or March.

5. **Community Prosecutors**
   - Developing legislation to enact new Community Prosecutors initiative to be administered by the Department of Justice.

6. **Prison Drug Testing/Treatment Legislation**
   - Working with Justice to develop legislation to allow federal prison construction funds to be used by states for drug testing, sanctions and treatment for prison

inmates and others under criminal justice supervision. Will attempt to attach to juvenile crime legislation, ONDCP reauthorization or appropriations.

5. **ONDCP Reauthorization**
   - Administration version of Drug Office reauthorization transmitted. House passed its own version over strong Administration objections. Improved Senate version could be considered this spring, but may have crack cocaine sentencing reforms attached.

6. **Victims Rights Legislation and Constitutional Amendment**
   - Continue to work with Senators Feinstein and Kyle to draft constitutional amendment. Get House and Senate to act on already transmitted victims legislation.

Additional DPC Processes

1. **Crime Working Group**
   - Oversee with Rahm Emanuel Justice-Treasury-ONDCP working group on various crime and drug issues and events.

2. **COPS Implementation**
   - Work with Justice's COPS Office to resolve long-term retention and funding issues to ensure that President's 100,000 cops goal remains on track.

3. **Sex Offender Initiatives**
   - Continue to work with Justice to encourage states to load sex offender data into our national sex offender registry. Working with Justice to develop initiative to expand supervision of released sex offenders.

4. **Youth Crime Gun Interdiction Initiative**
   - Overseeing expansion of ATF youth crime gun tracing initiative to 25 cities.

5. **Implementation of Modified Assault Weapons Directive**
   - Working with Treasury to implement directive to limit the importation of certain modified assault weapons.

6. **Law Enforcement Steering Committee**
   - DPC, with OPL, continues to have a working relationship and regular meetings with the Law Enforcement Steering Committee which represents most of the national law enforcement organizations.

7. **School Violence**
   - DPC working with Justice and the Education Department to prepare "report card" on school violence.