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MESSAGE

This goes with the information Mardi Pergler sent from the American

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JOHN A. ROLLWAGEN

John Rollwagen is chairman and chief executive officer of Cray Research, Inc., the leading supplier of supercomputers worldwide. In this role, he is responsible for maintaining an environment for creativity and teamwork, and for setting strategic direction in pursuit of the company's mission: to create the most powerful, highest-quality computational tools for solving the world's most challenging scientific and industrial problems.

Before joining Cray Research in 1975, he held sales and marketing management positions with Control Data Corporation, Monsanto Corporation, and International Time-Sharing, Inc. At Cray Research, he held progressively responsible positions as vice president of finance, vice president of marketing, and president, before assuming his current role as chairman and CEO.

Mr. Rollwagen is a founding member of the Computer Systems Policy Project (CSPP), an organization consisting of the chief executive officers of the 12 leading computer systems companies in the U.S., founded in 1989 to develop and advocate industry positions on trade and technology policy issues. In 1987, he was appointed by President Reagan as a member of the Advisory Committee for Trade Policy and Negotiations (ACTPN). He was reappointed to this position by President Bush. Mr. Rollwagen is a member of the board of directors of the U.S.-Japan Business Council.

Mr. Rollwagen also serves on the boards of Apple Computer, Inc.; Dayton-Hudson Corporation; the St. Paul Companies; and Minnesota Public Radio.

Mr. Rollwagen earned a master's degree in business administration from the Harvard Business School, and a bachelor of science degree in electrical engineering from the Massachusetts Institute of Technology. He is a recipient of the MIT Alumni Award for Distinguished Corporate Leadership, and has been honored by the University of Minnesota Institute of Technology for his contributions to the university's electrical engineering and computer science programs.

Born in Minneapolis, Minnesota, Mr. Rollwagen currently resides with his family (including two recent additions) in St. Paul. Among his varied interests are photography, helicopter skiing, and golf.

John F. Carlson

John Carlson was elected president and chief operating officer of Cray Research in September 1991. In this position, he focuses on the day-to-day execution of Cray Research's annual operations plan. Mr. Carlson is a member of the Board of Directors and chairs the Operations Committee. He is also a member of the Executive Management Committee, which formulates the company's strategic direction.

Previously, Mr. Carlson served as executive vice president and chief financial officer of Cray Research. He was responsible for ensuring that the company's financial objectives were met. Other responsibilities entailed overseeing corporate administration functions including contracts and shareholder relations. Since joining Cray Research in 1976 as director of finance, Mr. Carlson has held the positions of treasurer, vice president of finance, chief financial officer, and senior vice president.

Prior to joining Cray Research, Mr. Carlson was with Peat, Marwick, Mitchell & Co., Certified Public Accountants from 1964 to 1976. During that time he held several positions responsible for the direction and results of client audit engagements.

Mr. Carlson graduated from Saint Mary's College, Winona, Minnesota, in 1960 with a bachelor of science degree in business administration. He was awarded his Certified Public Accountant certificate in 1967. Mr. Carlson is a member of the American Institute of Certified Public Accountants and the Minnesota Society of Certified Public Accountants.

He is a member of the board of directors of TSI Incorporated. Additionally, he is chairman of the board of Junior Achievement of the Upper Midwest, Inc. He serves on the board of the Science Museum of Minnesota, where he is treasurer and chairman of the finance committee.

Mr. Carlson was born November 23, 1938, in Eau Claire, Wisconsin, and graduated from Regis High School, also in Eau Claire.

Company history

A simple mission

Computer architect Seymour Cray and a small group of computer industry associates founded Cray Research, Inc., in 1972. The new company sought to fulfill a simple mission: to design, manufacture, market, and support the most powerful computer systems available. That mission remains the same, and today Cray Research is the world's leading supplier of large-scale scientific and engineering computers.

Cray Research began operations in Chippewa Falls, Wisconsin. Over the years, it expanded to include company headquarters, software development, and marketing support facilities in the Minneapolis-St. Paul, Minnesota area; and hardware design, engineering, and manufacturing facilities in Chippewa Falls and Rice Lake, Wisconsin. The company maintains sales and support offices throughout the United States and in 17 countries.

Cray Research computer systems have helped establish large-scale computational research as a practical third branch of science and engineering. Computational research, the mathematical modeling and simulation of physical and other quantifiable phenomena, augments the traditional experimental and theoretical branches of science and engineering. By modeling complex phenomena mathematically, Cray Research systems allow researchers to investigate areas that are physically impossible, too time-consuming, dangerous, or expensive to study in any other way. Cray Research systems are used extensively by scientists and engineers in the aerospace, automotive, chemical, electronics, and petroleum industries, as well as in many public and private research centers, such as universities and government laboratories.

Success and rapid growth

Cray Research shipped its first product — the CRAY-1 system — to a customer site in March 1976, the same month the company made its first public stock offering. The CRAY-1 computer system delivered unprecedented computing performance. Immediately recognized as the world's fastest scalar processor, the CRAY-1 system also distinguished itself as the first commercially successful vector processing computer. (In scalar processing, the traditional processing method, individual instructions are issued for each operation. Vector processing is useful for tasks that require a given mathematical operation, such as addition, to be performed on many sets of numbers. A vector processor works on numbers that have been arranged in long lists, or vectors, issuing one instruction to carry out all needed calculations

on the entire list. This computing method results in tremendous gains in speed.)

In May 1976, a second customer ordered a CRAY-1 system, and by year end the company received its first revenue. At the time, industry experts estimated that the customer base for large-scale computer systems — supercomputers — comprised fewer than 100 organizations, primarily government laboratories. However, at the beginning of 1991, 201 commercial and government customers were using 262 Cray Research systems, and industry experts had revised their estimates of the worldwide market by a factor of ten.

Market leadership and expansion

In 1978, Cray Research received its first commercial customer order. Cray Research also became an International corporation that year, establishing a business center in the United Kingdom. Offices in Japan and West Germany opened the following year. Since then, the company has expanded its international operations to include business centers throughout North America, Western Europe, and the Pacific Basin. By 1980, two years after installing its first supercomputer, Cray Research became the world's leading supplier of high-speed scientific computers. Today, Cray Research systems account for approximately two-thirds of the world's installed base of true supercomputers.

One of the critical factors of the company's early success was its commitment to research and development. R&D continues to be a company priority; more than 15 percent of revenue is devoted to product development and enhancement each year. Cray Research's R&D resources are divided approximately equally between hardware and software efforts.

New generations

The CRAY-1 system was discontinued in 1982, when it was replaced by the more powerful CRAY X-MP computer. The CRAY X-MP system, which evolved from the CRAY-1 system and was three to five times faster, was the first supercomputer to implement multiprocessing (simultaneously applying more than one processor to the same problem). The original dual-processor CRAY X-MP supercomputer was first in a series of systems that eventually comprised 11 models. The CRAY X-MP series continued until 1988, when newer products took its place.

The CRAY-2 computer system debuted in June 1985. Initially, the CRAY-2 supercomputer featured four central processing units and demonstrated

performance of from six to twelve times that of the CRAY-1 system. The product line eventually expanded into four models, offering a variety of processor and memory configurations. The CRAY-2 series incorporated significant departures from conventional computer design. Its innovations included a much larger and faster memory subsystem, three-dimensional interconnections that directly linked neighboring circuit boards within a module, and a unique cooling system using a circulating fluorocarbon liquid that directly contacted the circuitry. The largest CRAY-2 model featured four central processors and 512 million words of memory. In 1989, the company discontinued manufacturing the CRAY-2 series, but it continues to support and maintain CRAY-2 systems owned by its customers.

The CRAY Y-MP system

Cray Research announced the CRAY Y-MP computer system in 1988, succeeding the CRAY X-MP series. The original CRAY Y-MP system featured eight central processing units and offered performance of up to 30 times that of the CRAY-1 system. Today the CRAY Y-MP series includes models that range from a single-processor system with 32 million words of memory to a top-of-the-line 16-processor model with 256 million words of memory.

In May 1990, Cray Research announced the CRAY Y-MP 2E supercomputer, an air- or water-cooled computer system available in one- and two-processor models with up to 64 million words of memory. The CRAY Y-MP 2E supercomputer provides customers with performance equal to that of one- and two-processor CRAY Y-MP systems at a lower price with lower operating costs. Because the CRAY Y-MP 2E supercomputer can be air-cooled, it does not require special site plumbing. It also does not require a motor generator set, and thus can be powered with commercially available electricity. The system runs Cray Research's UNICOS operating system, which is based on the UNIX System Laboratories, Inc. UNIX System V operating system.

In March 1991, Cray Research announced the CRAY Y-MP 8E and CRAY Y-MP 8I systems, which provide performance comparable to previous CRAY Y-MP8 systems, but at a significantly lower price. These systems incorporate all new I/O and SSD technology that improve performance, versatility, and reliability. New I/O technology provides increased bandwidth that allows users to connect to more peripheral devices and perform more activities simultaneously. The new SSD technology offers reliable storage capacity at a lower cost than the previous technology. Using very large-

scale integrated chip technology and increased system integration, the SSD is available with up to 512 million words of memory (CRAY Y-MP 8I) or 2 billion words of memory (CRAY Y-MP 8E). These large storage capacities allow users to solve larger problems than previously were possible. The CRAY Y-MP 8E system is available with four or eight CPUs and 128 or 256 million words of memory. The CRAY Y-MP 8I system is available with four or eight CPUs and 64 or 128 million words of memory.

In April 1991, Cray Research announced the CRAY Y-MP 4E system, which offers performance comparable to that of previous CRAY Y-MP4 systems, but at a significantly lower price. CRAY Y-MP 4E systems can be air- or water-cooled and incorporate the new I/O and SSD technologies that are available in the CRAY Y-MP 8E and CRAY Y-MP 8I systems. The CRAY Y-MP 4E system is available with up to four CPUs and 32 or 64 million words of memory.

Cray Research entered the minisupercomputer market in June 1990 when it acquired Supertek Computers, Inc., a designer and manufacturer of a Cray Research-compatible minisupercomputer. The first product of the acquisition – the CRAY XMS system – was announced in July 1990. The CRAY XMS ran the UNICOS operating system and was compatible with Cray Research's CRAY X-MP series of supercomputers. In October 1991, Cray Research announced the follow-on to the CRAY XMS system – a fully CRAY Y-MP-compatible supercomputer – the CRAY Y-MP EL computer system. The CRAY Y-MP EL system is available with up to four CPUs and 64 or 128 million words of memory and provides the highest level of performance on a wide variety of applications. As problem-solving needs grow, the CRAY Y-MP EL system provides a cost-effective pathway to the computation power of large-scale supercomputing.

In November 1991, Cray Research introduced the top of the successful line of CRAY Y-MP supercomputers – the CRAY Y-MP C90 computer system. With 16 processors and 256 million words of memory, the CRAY Y-MP C90 system is Cray Research's most powerful parallel-vector computer system to date, offering a peak speed of 16 billion floating-point operations per second. While fully compatible with other CRAY Y-MP family members, the CRAY Y-MP C90 computer system marks its entrance into the 1990s by featuring many exciting new technologies, leading-edge manufacturing methods, and innovative packaging techniques.

These products support Cray Research's network supercomputing strategy, which aims to deliver supercomputer power to the desktop of every user

on a computing network. From the CRAY Y-MP EL to the CRAY Y-MP C90 computer system, Cray Research products are powerful and productive tools that fit into a wide range of computing environments, providing network bandwidth that is unmatched in the computer industry.

Software development

Cray Research's tradition of innovative hardware design is matched by its success in software development. Because hardware performance depends heavily on software performance, Cray Research emphasizes feature-rich software products that enhance Cray Research hardware capabilities.

In 1977, Cray Research released its first software products, the Cray operating system (COS) and the Cray Fortran compiler (CFT), which was the first Fortran compiler to vectorize code automatically, enabling users to exploit the advantages of parallel processing without expending the extra effort required by previous generations of parallel processing software. UNICOS, an interactive operating system for all Cray Research computer systems based on the UNIX System Laboratories, Inc. UNIX System V operating system, was released in 1986. A new, state-of-the-art Cray Fortran compiler, CFT77, also was introduced in 1986. (CFT77 is now part of the CF77 compiling system.)

Cray Research's software development efforts have expanded steadily. In addition to the UNICOS operating system, the company's software products include a variety of language compilers, tools, and utilities, along with software that enables users to integrate their Cray Research systems into complex, multivendor networks. In 1988, the company announced an automatic parallel processing feature called Autotasking. With this feature, the CF77 compiling system partitions individual programs automatically so that segments execute simultaneously on multiple processors. The company also supports programs to assist conversion of third-party and public-domain application programs for use on Cray Research systems.

In 1990 Cray Research announced the UniChem computational chemistry environment, an easy-to-use, integrated software system for product design and development in the chemical, pharmaceutical, and petrochemical industries. The UniChem environment links the power and networking capabilities of Cray Research computer systems to the convenience and visualization capabilities of workstations. It provides a common interface through which users can manage data, import or build molecular structures, choose a computational method, select parameters, control computations,

and visualize results. The use of a common interface to perform these tasks enables users to run many simulations in a short time. The UniChem environment is a first-of-its-kind, comprehensive software package for large-scale modeling in chemistry and chemical engineering.

Network supercomputing

Today, as the industry leader, Cray Research is committed to providing supercomputer power to the desktops of all computer users in a network environment. While the company continues to adopt industry standards for communication and networking, it provides connectivity to other non-Cray Research proprietary networks.

The many communication products and protocols offered or supported by Cray Research allow applications to be distributed within networks. Thus, other systems perform data handling, graphic display, and other functions, while the Cray Research supercomputer handles what it does best: large simulations that enable researchers to solve problems that formerly were impractical or impossible to solve.

Through the implementation of networking standards, Cray Research provides connectivity to virtually all UNIX-based mainframes, minicomputers, and workstations. These standards include the TCP/IP networking protocol and applications, the X Window System, the Network File System, the Open Systems Interconnection (OSI) version 1.0 networking standard, the HIPPI (High Performance Parallel Interface) I/O channel standard, and the Fiber Distributed Data Interface (FDDI) standard.

Today and tomorrow

Cray Research shipped its 200th computer system in September 1987. In that same year, the company made its first appearance on Fortune magazine's "Fortune 500" listing of the largest industrial corporations. The company again set an industry standard in 1988 when its CRAY Y-MP system became the first supercomputer capable of running full-scale production codes at a sustained rate in excess of one billion calculations per second (gigaflops). In May of 1991, Cray Research announced the sale of its 100th CRAY Y-MP system.

Cray Research continues to succeed by applying its combined philosophy of technological risk-taking and strong financial management. The company's sales and support organization around the world enables it to take full advantage of the business opportunities that arise in new industries and new geographical areas. The company's U.S. operations and international subsidiaries are structured to

maximize their ability to respond quickly to changing customer needs.

New technologies and improved price/performance have characterized each step in the evolution of Cray Research's product line. Since the first Cray Research computer system ushered in the age of large-scale computational science, Cray Research systems have taken their place as essential research, engineering, and production tools in government, industry, and academia. Through its ongoing research and development efforts, Cray Research ensures that its systems will continue to define the leading edge in advanced scientific computing.

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The UNICOS operating system is derived from the UNIX System Laboratories, Inc. UNIX System V operating system. UNICOS is also based in part on the Fourth Berkeley Software Distribution under license from The Regents of the University of California. UNIX is a registered trademark of UNIX System Laboratories, Inc. X Window System is a trademark of the Massachusetts Institute of Technology.

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Commercial markets and applications

Compressing days into hours

Cray Research computer systems are used in diverse industries to accelerate product development, increase productivity, and solve basic research problems. Cray Research systems enable engineers and scientists to numerically model phenomena that are physically impossible, too time-consuming, dangerous, or expensive to study in any other way. Using Cray Research systems, engineers and scientists can run larger and more detailed models than otherwise would be practical, because Cray Research systems can solve problems in hours that consume days on other computers.

Cray Research has installed more supercomputers around the world than any other supplier. Examples follow of industries in which the processing speeds, large memories, high I/O bandwidth, and parallel processing capabilities of Cray Research systems have proven invaluable. In each of these industries, Cray Research systems provide researchers with unique tools for solving problems and gaining knowledge.

Automotive

Automakers around the world rely on Cray Research supercomputers to support structural analysis, internal and external fluid flow studies, acoustic and electronic simulations, and other engineering and design efforts.

Cray Research systems are used extensively in the automotive industry to analyze physical structures that bear static or dynamic loads. Such analyses reduce the number of physical tests that must be conducted. Studies of automobile crashworthiness, in particular, are of growing interest to automotive designers and engineers. Automotive manufacturers, such as BMW, Ford, Kia Motors, Mazda, Opel, and Toyota, have found that crashworthiness simulations conducted on Cray Research systems provide more precise engineering information than typically is available from actually crashing vehicles or through models run on other computers. Cray Research supercomputers enable designers and engineers to run exceptionally large models, including models of two-car collisions, to ensure that new vehicles meet increasingly stringent legal standards for crashworthiness. Such large models are impractical to run on other systems due to the long run times involved. Computer modeling on Cray Research systems provides results faster than other engineering methods, thereby accelerating product design cycles significantly.

By modeling engine cooling systems and passenger compartment ventilation on Cray Research supercomputers, researchers can observe flow patterns in detail and in slow motion. The information gained in this way cannot be obtained from studies conducted on physical prototypes. Researchers at Peugeot simulate the effects of noises and vibrations produced by an automobile's engine, exhaust pipe, and air filter to predict the acoustic comfort of passengers. Cray Research supercomputers also are being used to model fuel flow within engines. The information obtained can be used to design more efficient combustion systems that will reduce vehicle operating costs and emissions.

Aerodynamic studies conducted on Cray Research systems can reveal air-flow patterns around a vehicle faster, less expensively, and more accurately than can traditional wind tunnel tests or modeling on smaller systems. Such studies help designers improve the fuel consumption and handling characteristics of new vehicles.

Aerospace

As in the automotive industry, Cray Research systems are used in the aerospace industry to support research in structural analysis, aerodynamics, electronics, and combustion. They also are used increasingly to solve problems in computational electromagnetics.

Typically, structural analysis is conducted using the finite element method, in which a physical structure is modeled as a grid or mesh of well-defined elements. Engineers then calculate the effects of pressure, temperature, or other loadings on each element, and the effects of each element on its neighbors. In this way large and complex structures can be analyzed precisely. Cray Research supercomputers enable engineers to analyze structures routinely that are too large to analyze within a practical time frame on other systems. Corporations that use Cray Research systems — such as General Dynamics, McDonnell Douglas, and the Northrop Corporation — are able to improve their engineering efficiency substantially while producing more structurally sound and lightweight components.

Aerodynamic design in the aerospace industry is one of the more highly developed applications of Cray Research systems. Aircraft designers traditionally have relied on wind tunnels to evaluate the aerodynamics of aircraft and aircraft sections. But designers can eliminate many cycles of wind

tunnel testing by evaluating and modifying designs computationally on Cray Research systems. In this way, Cray Research systems dramatically reduce the time and cost required to bring new designs to market.

Fuel efficiency is another area that benefits from the application of Cray Research systems. Cray Research supercomputers enable engineers to model combustion physics and chemistry in detail, and the understanding gained is applied to the design of more efficient combustion systems.

The U.S. National Aerospaceplane (NASP) project showcases many of the advantages Cray Research systems bring to aerospace design and engineering. This project may be the most technologically challenging enterprise that the aerospace industry and the National Aeronautics and Space Administration (NASA) have ever undertaken. Because the NASP will travel at speeds of up to 25 times the speed of sound — a velocity not practical to recreate in full-scale wind tunnels — computer simulations provide the only means of evaluating the aerodynamic characteristics of NASP designs. Cray Research supercomputers are being used extensively for such studies because they provide the processing power required to run many simulations in a short time. Aerospace researchers also are conducting thermodynamic studies on Cray Research systems to determine how best to dissipate heat produced on the surface of the vehicle at speeds nearing Mach 25. At such speeds, chemical effects will occur between the skin of the NASP and the atmosphere, and Cray Research systems are being used to determine the types of reactions that are likely to occur and what effect they might have on the craft. Cray Research systems also are being used to perform chemical studies to help design strong, lightweight, and temperature-resistant composite materials for use in the NASP. Cray Research supercomputers are installed at all major NASA research and operational centers.

Computational electromagnetics is an increasingly important application of Cray Research systems in the aerospace industry. This application is used by military aircraft designers to design low-observable, or stealth-like, aircraft. The designers model the chemical composition of the aircraft skin, the geometry of the aircraft, and the reflections of electromagnetic waves off the skin. Cray Research systems enable researchers to run very large electrodynamic simulations that include high-resolution models of the electromagnetic waves. Researchers also use computational electrodynamics in the aerospace industry to model lightning strikes on aircraft. The results are

used to design aircraft that are less susceptible to damage that such strikes can cause.

Petroleum

Oil companies and geophysical contractors worldwide rely on Cray Research supercomputers to help locate and recover petroleum deposits. Companies such as Exxon, Phillips Petroleum, Shell Oil, and B.P. Exploration use supercomputer simulations to estimate where to drill for the most productive wells and how to recover petroleum reserves most efficiently. Geophysicists use Cray Research systems to process the large volumes of data generated by reflection seismology, a technique used in geological exploration. By enabling scientists to model underground structures, Cray Research systems help reduce the likelihood of drilling unproductive wells.

Many major oil companies also use Cray Research systems to simulate the complex flow phenomena that characterize petroleum recovery, or the extraction of oil from the earth. To determine the best recovery strategy for a particular reservoir, engineers must consider the reservoir's underground temperature and pressure, the chemical makeup of the petroleum, and the geology of the area. Modeling the complex interactions of these variables for large volumes of earth requires immense computing power. Cray Research supercomputers are among the petroleum industry's most valuable and cost-effective engineering tools, because an increase in output from a reservoir of only a few percent can return the investment in a supercomputer many times over.

In addition, the petroleum industry uses Cray Research systems to design offshore structures, which can exceed 1000 feet in height and represent billion-dollar investments. Cray Research systems also are used in the industry to optimize chemical and refining processes.

When ARAMCO, the world's largest oil company, purchased a Cray Research system in 1984, the company experienced major breakthroughs in reservoir modeling. Although previous models were beneficial, the sheer magnitude of Saudi Arabian reservoirs and computing limitations restricted engineers to only low-resolution models. The Cray Research supercomputers enabled ARAMCO engineers to develop models that more accurately represented physical systems. ARAMCO's engineers and geologists initiated new data-gathering and interpretation efforts aimed at providing more detailed descriptions of the company's oil reserves. They developed large and comprehensive databases to accumulate and manipulate the data to form the basis for a new generation of oil field models.

Chemistry

Growing numbers of chemical and pharmaceutical companies and research organizations are taking the guesswork out of molecular design by modeling atomic and molecular systems on Cray Research systems. Computer models of atomic and molecular systems can provide information about chemical reaction rates, properties of synthetic polymers, and the shapes and behavior of macromolecules that contain thousands of atoms. Obtaining this information by traditional experimental means can be extremely costly and time consuming.

Companies such as Du Pont, Eli Lilly and Company, and Monsanto use Cray Research supercomputers to help design pharmaceuticals, pesticides, and polymers; study combustion, catalysis, and atmospheric chemistry; and model nucleic acids and proteins for biotechnology applications. As a result of the modeling capabilities provided by Cray Research systems, researchers are designing safer and more effective pharmaceutical, agricultural, and industrial products in less time and at lower cost.

For example, Du Pont estimates that about 30,000 compounds are synthesized for each new drug developed. At a cost of \$5000 per synthesis, up to \$150 million can be invested in discovering a drug before it is approved by the Food and Drug Administration and manufacturing begins. Numerical simulation can save millions of dollars and much time by making the development process a more exact science.

Du Pont has achieved a number of successes with Cray Research supercomputers. Researchers have simulated the thermodynamic properties and the global warming potentials of chlorofluorocarbon (CFC) alternatives, modeled properties of polymers for Teflon products and for Kevlar aramid fiber, and analyzed the strengths of many polymers.

Meteorology and Earth systems

Since the introduction of the first electronic computers in the 1940s, numerical weather prediction has taxed the most powerful of each successive generation of computer systems. Today, major weather centers around the world use Cray Research systems, including the European Centre for Medium-Range Weather Forecasts, the Australian Bureau of Meteorology, the Air Force Global Weather Central, and the U.K. Meteorological Office.

Meteorologists and climatologists rely on Cray Research systems to run complex models of Earth's fluid environment — its atmosphere and oceans. Such models typically must account for

phenomena such as evaporation and condensation, solar heating, cloud movement, and thermal and fluid dynamics. The models also often include information about temperature, humidity, barometric pressure, and wind velocity.

Cray Research systems are uniquely suited to compute the interactions of these variables over long durations for a range of spatial volumes, encompassing local thunderstorms and global weather patterns. The computing speed, storage capacity, and parallel processing capabilities of Cray Research systems enable meteorologists to generate accurate weather forecasts quickly and cost-effectively. Improved forecast timeliness and accuracy provide enormous cost savings to agriculture and to industries that rely on air and water transportation. Researchers also are using Cray Research systems extensively to study environmental phenomena such as global warming, ozone depletion, and acid precipitation.

At the National Center for Atmospheric Research, scientists are using coupled ocean-atmosphere models to simulate the effects of increasing amounts of carbon dioxide on Earth's climate system. They are studying model results to determine whether the oceans can delay warming and act as a climate buffer by extracting heat from the atmosphere, and to analyze the difference between gradual and instantaneous carbon dioxide increases. Supercomputer simulations such as these will provide insight into problems that could affect humanity for generations to come.

Energy

As nuclear power plants grow in complexity, and safety concerns grow as well, new plant designs need to be evaluated on the most advanced systems available. Cray Research supercomputers are used in several countries to run models of nuclear power plants for licensing, design, and operator training. Only Cray Research systems provide the computing power needed to simulate in a timely manner the intricate fluid flow, heat transfer, and neutronics phenomena that characterize current and new-generation nuclear power plants. The processing speed of Cray Research systems also makes possible real-time plant simulations, a capability useful for training operators to respond quickly to novel situations. Power plant training simulators typically run a preprogrammed set of scenarios. But by actually modeling the physical processes of a power plant on a Cray Research supercomputer, simulators can present operators with realistic representations of unusual conditions.

Westinghouse Electric Corporation, a major worldwide vendor of reactors and fuel, has been using

Cray Research systems for all aspects of reactor design, fuel optimization, and safety analysis. In addition, U.S. national laboratories rely on Cray Research systems to develop computer codes that model reactor operations. In France, where more than 75 percent of electrical energy is provided by nuclear power, Cray Research systems are used for simulating nuclear plant safety and operator training by the prime reactor vendor, Electricité de France, and the government regulatory and research agencies, Commissariat à l'Energie Atomique.

Electronics

Electronic circuit designers use computer-aided engineering (CAE) methods that enable them to model and test circuit designs before the circuits are fabricated. The complexity of today's electronic devices and demands for fast turnaround make Cray Research systems invaluable tools for CAE. Cray Research systems are used for applications in the electronics and computer industries, ranging from the modeling of system architectures, timing, device structures, and electromagnetics to heat flow analysis and plastic injection molding.

At Hughes Aircraft, integrated circuit designs typically require three years and four iterations before entering production. Because engineers needed to integrate 10,000 bipolar transistors on a single chip, they decided to investigate full-chip simulation to verify designs before manufacturing. By using a Cray Research supercomputer, they reduced the design cycle to 15 months and designed a product that worked the first time as modeled.

Apple Computer's researchers apply a Cray Research supercomputer to many areas of

research, development, and production. They simulate the injection molding process that produces the cabinet components used in various Apple products, model more efficient power converters, and investigate methods of increasing the flexibility of the Macintosh computer user interface. Apple has found that supercomputer simulations mean cost savings, faster development cycles, and more reliable and aesthetically pleasing products. The benefits to Apple's customers include more economical, attractive, and highly functional products that become available sooner than otherwise would be possible.

Global and emerging markets

In addition to serving commercial customers, Cray Research systems are used extensively in government-sponsored research laboratories to support space exploration programs, energy research, defense projects, and other national efforts. Cray Research supercomputers also are installed in many academic computing centers around the world, where they support research in the physical and social sciences, engineering, and the arts.

Cray Research systems provide a time- and cost-saving alternative to other research and information-processing tools in areas that require fast turnaround of large data sets. As a result, researchers continually are developing new applications for Cray Research systems. Newer applications include database management, operational systems, artificial intelligence applications, and linear programming for scheduling optimization.

Engine-Testing Software Built for Speed

Auto makers typically spend five years and several hundred million dollars developing a car or truck engine. Cray Research Inc., the supercomputer company in Eagan, Minn., has developed a computer program that it says will shave a year off the process by cutting the time required for testing, modifying and retesting prototype engines.

Cray executives say the main advantage of their new CRI/TurboKiva software is that it can display an engine's internal workings in vivid detail, showing the temperature of a section of a combustion chamber's wall or the velocity of air in a fuel-injection port. Such information helps find the right design for reducing certain emissions, for example.

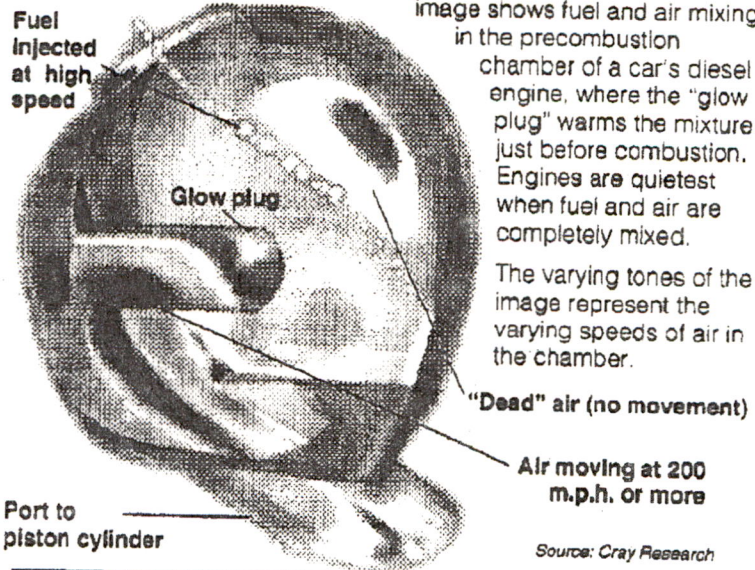
"It reduces the number of necessary tests and allows the designer to make more informed choices," said Reza Taghavi, project manager for the TurboKiva. Mr. Taghavi said the program would be particularly useful for designers of diesel engines. To meet strict emissions regulations, diesel engineers are being forced to explore substantive changes in internal engine design, rather than simply find ways to modify the exhaust.

The TurboKiva name stems from the software's Southwestern origins. The computer code is based on a Department of Energy system devised at the Los Alamos National Laboratory in New Mexico; kiva is the Hopi word for a ceremonial chamber at a pueblo.

Mr. Taghavi said the TurboKiva software could not totally replace prototype testing because engine

Watching an Engine Breathe

A software system developed by Cray Research helps engine designers visualize the best conditions for fuel combustion. This image shows fuel and air mixing in the precombustion chamber of a car's diesel engine, where the "glow plug" warms the mixture just before combustion. Engines are quietest when fuel and air are completely mixed.



Source: Cray Research

The New York Times

designers had only limited understanding of some phenomena — such as precisely when an engine will "knock" — which prevents the creation of the complex formulas necessary for computer simulation.

A Cray supercomputer, which can cost from \$340,000 to \$30 million, is required to operate the software. Most auto makers purchased Cray machines in the mid-1980's to run crash-simulation soft-

ware. Customers will license the software for an annual fee, which will start at \$30,000.

Cray says its current target customers are automotive companies with Cray computers, but the software could be used by makers of other types of engines, whether for ships, trains or even lawn mowers. Subsequent versions, Cray hopes, will be adopted by aerospace companies.

ADAM BRYANT

- 30% of Japanese Commercial market
- Trade agreement could boost sales \$100 million
(40% sales go it funded go to foreign cos. in U.S. - .6% in Japan)

Frank Parisi VP Comm.
(612) 683-7100

- 1991 was a flat year, but Cray still grew
- Revenue \$862 million, up 7% from 1990
- Profit \$113 million, up 7% from 1990
- Hiring 150 people in Wisconsin this year, 400 layoffs
- CEO Bollwag been there 15 years, CEO for 10 to 12

OFFICE OF THE VICE PRESIDENT

February 17, 1992

- MacGregor's new golf club built w/ a Cray, saving years (TN 30 yards longer)
- Will be sold in Japan for \$2000 a piece.

Tour of Cray Research, Inc.

- \$3.1 million in outside legal fees last yr.
- \$1.6 million in house - 7 lawyers.
- Mostly patent protection + contracts.

DATE: February 18, 1992
LOCATION: Minneapolis, Minnesota
TIME: 4:20 p.m.
FROM: John Howard
Richard Porter

- weak limits on joint and several
- weak - and partial - caps on noneconomic damages (not pain and suffering)
- Punitive damages - bifurcated trials + judicial review
- * Health access Bill pending
- ADR
- expert evidence standards
- noneconomic damages caps
- punitive damages to state fund!

what's left -
① Discovery reform
② Fairness rule

I. PURPOSE

655 Lone Oak Dr.

To visit with employees of Cray Research, Inc., to discuss competitiveness and to underscore the need for civil justice reform at the both the Federal and state levels.

II. BACKGROUND

Cray Research is the world's leading manufacturer of high-performance supercomputers, having approximately 60% of the worldwide market. Exports to Japan constitute approximately 10% of Cray's revenue; exports to Europe produce approximately 25%. Cray's software development, marketing support, and administrative facilities (approximately 800 of Cray's 4,800 employees) are in Minneapolis.

Cray's systems are designed for large-scale computations primarily for use in physical applications - the analysis and prediction of the behavior of physical systems through computer modeling. These applications are particularly useful in weather forecasting, aircraft and automotive design, nuclear research, geophysical research, and seismic analysis. To maintain its market leadership, Cray invests 15% of its revenues in engineering and development.

Double industry average

Minnesota Law

Minnesota's legal reform efforts have been relatively unsuccessful. In this session, the legislature is expected to consider bills that would:

- limit joint and several liability -- those who are less than 30% at fault would pay only their share of damages,
- cap non-economic damages
- revise expert witness standards, and
- provide incentives for alternative dispute resolution.

Given Minnesota's unsuccessful efforts, the Administration's Civil Justice Reform initiative presents an effective model for state legislation. The Cray audience is likely to be responsive to a general discussion of the impact of an unnecessarily costly and time-consuming civil justice system.

III. PARTICIPANTS

The Vice President
John Rollwagen, Chairman & CEO, Cray Research, Inc.
John Carlson, President & COO, Cray Research, Inc.

IV. OUTLINE OF EVENTS

4:20 p.m. The VICE PRESIDENT arrives Cray Research, Inc.
4:25 p.m. The VICE PRESIDENT tours Cray Research, Inc.
4:45 p.m. The VICE PRESIDENT addresses employees
4:55 p.m. Press Availability.
5:10 p.m. The VICE PRESIDENT departs.

V. PRESS PLAN

Open Press Throughout Visit
Press Availability

VI. ATTACHMENTS

Remarks (John McConnell)
Biographies
Summary of Japanese Agreement on Supercomputers (Dave Juday)
Background Information on Cray Research, Inc.

VII. FOLLOW-UP ACTION REQUIRED

Thank You Notes



ABC 100

JOHN F. CARLSON

President & COO
Cray Research, Inc.
Minneapolis, Minnesota

COMPANY:

Industry: Industrial-High-Tech
World leader in supercomputers with more than 60% of the worldwide installed base
Engaged in the design, development, and manufacture of large-scale, high-speed computing systems, as well as the marketing and support of such systems
Total revenues for 1990: \$804 million
4700 employees
Founded 1972

PERSONAL:

Cray Research: executive vice president and C.F.O., 1982 - 1991; vice president of finance and C.F.O., 1978 - 1982; treasurer, 1977 - 1978; director of finance, 1976 - 1977
Boards: TSI Incorporated; Junior Achievement of the Twin Cities, Inc.; Science Museum of Minnesota; Carondelet Life-Care Corporation; Riverside Medical Center
Education: B.S., Saint Mary's College, Winona Minnesota; CPA



ABC 100

JOHN A. ROLLWAGEN

Chairman President & CEO
Cray Research, Inc.
Minneapolis, Minnesota

"We define supercomputers and we create the market. Everything we do seems to be a discovery project."

COMPANY:

Industry: Industrial-High-Tech

World leader in supercomputers with more than 60% of the worldwide installed base

Engaged in the design, development, and manufacture of large-scale, high-speed computing systems, as well as the marketing and support of such systems

Total revenues for 1990: \$804 million

4700 employees

Founded 1972

PERSONAL:

Instrumental in establishing Cray's early marketing efforts

Received M.I.T. Alumni Award for Distinguished Corporate Leadership in 1984

Boards: Advisory Commission for Trade Policy and Negotiations (ACTN), Apple Computer, Inc., Dayton-Hudson Corporation, Federal Reserve Bank of Minneapolis, Minneapolis Business Partnership, U.S./Japan Business Council, Minnesota Public Radio

Education: B.S., M.I.T., M.B.A., Harvard Business School

"International competitiveness with much larger, more powerful enterprises. Perhaps the key element in this will be the availability of motivated, educated and creative people."

Corporate Profile

Cray Research, Inc., was founded on April 6, 1972. The company's mission is to lead in the development and marketing of supercomputers — high-performance systems that make a unique contribution to the markets they serve.

Cray Research computer systems provide balanced performance for computationally intensive large-scale applications. They are used primarily for physical simulation — the analysis and prediction of the

behavior of physical systems through computer modeling. Physical simulation is common in such disciplines as weather forecasting, aircraft and automotive design, nuclear research, geophysical research, and seismic analysis.

Today, Cray Research has approximately two-thirds of the worldwide market for supercomputers. The company employs approximately 4800 people and operates manufacturing and development facilities in Chippewa Falls and Rice Lake, Wisconsin. Software development,

marketing support, and administrative facilities are located in the Minneapolis-St. Paul area. The company has 30 domestic sales and support offices and 17 subsidiary operations abroad.

Because maintaining performance leadership in its chosen segment of the scientific computer market is the very reason for its existence, Cray Research invests heavily in development and engineering. The company's target is to spend 15 percent of revenue on engineering and development.

Contents

- 1 Financial Highlights
- 2 Letter to Stockholders
- 4 Operations Report
- 17 Financial Report
- 40 Corporate Information
- 41 Worldwide Business Centers
- 42 Investor Information

Cover: model of an anticancer drug binding to DNA. The drug was designed and the binding simulation performed on a CRAY Y-MP supercomputer. Image courtesy of Dr. Frederick H. Hausheer, Medical Oncology, University of Texas Health Sciences Center, San Antonio.

To Our Stockholders:

1990 was an excellent year for Cray Research in two fundamental ways.

First, we re-established our strong earnings-per-share momentum with a 33 percent increase over 1989 despite essentially flat revenues. We earned \$4.02 per share compared with \$3.02 for 1989. Revenues were \$804.4 million compared with \$784.7 million in 1989. We also closed the year with a backlog of \$338 million, giving us a strong position entering 1991.

Second, and more importantly, we built a strong platform for growth during the coming decade. Following our restructuring and the spin-off of Cray Computer Corporation (CCC), we spent 1990 re-examining and rebuilding the entire business proposition for Cray Research. While we have preserved the best of our heritage — especially our commitment to the highest performance computer systems in the world — we have added several new elements, which when combined with the old, create a new vision for growth and success in this decade. This new vision is in absolute concert with the major changes taking place in the world around us.

This annual report, then, goes beyond a recitation of our experiences in 1990, to explain the basis for our optimism about the coming decade. I hope you will take the time to read it carefully so you can share our enthusiasm for the future. If you have any questions about our plans or, even better, ideas to improve them, I hope that you will contact me personally.

We achieved enviable performance in all aspects of the company's activities, including finance, marketing, development, manufacturing, and the recognition of our most important asset, our people.

In addition to achieving strong profit performance, we also concentrated on our cash flow. This was particularly important given our need to finance the spin-off of CCC. We reduced inventories and receivables

by \$66.3 million. That, plus savings in other asset areas and our strong operating results, allowed us to transfer \$48.9 million to CCC, to make \$62.7 million in capital expenditures, and to buy back \$89.4 million of our stock — all without new financing. And we were able to maintain a cash and investments balance at year-end of \$204.2 million.

We continued our strong dedication to both hardware and software technology by investing \$128.4 million, or 16 percent of revenues, in engineering and development. This is evident in the significant broadening of our high-performance computer product mix. We successfully introduced the easy-to-install, air-cooled CRAY Y-MP2E system in May. It has been warmly received in the market. By year-end, 12 systems had been ordered and several were being installed. We expect fully half of the systems delivered in 1991 to be this new model.

At the other end of the range, progress on the CRAY Y-MP16 system, the most powerful system we have ever attempted, was extremely gratifying. By year-end, we had demonstrated a single processor version of the system running customer codes. Initial results indicate that when we demonstrate a fully configured 16-CPU system later in 1991, it will have three to five times the power of our current CRAY Y-MP8 system. And when we measure power, we are not talking just about peak speeds, but real performance on real codes for real customers.

During 1990, we completed the acquisition of Supertek Computers, Inc., using that as the basis for our new Entry Level Systems (ELS) division. By fall, led by Mike Lindseth, ELS had improved the hardware technology of Supertek's equipment and combined it with the full power of Cray Research software. The resulting new CRAY XMS system was introduced in August, and customer deliveries began in December. The CRAY XMS system has demonstrated one-tenth the power of full-sized Cray Research supercomputers at about one-tenth the cost. ELS

also announced plans to develop a follow-on product, the CRAY YMS system, in 1991. The CRAY YMS system promises to span a range of performance from the CRAY XMS system to a single-processor CRAY Y-MP system — but at a considerable reduction in price.

Complementing those hardware achievements was an equally ambitious program in software development. We saw the culmination of the first phase of Project Everest, created to make our UNICOS operating system the most reliable and easy-to-use in the industry. A new release of the Fortran compiling system supported our lead in parallel processing and high-performance vectorization. We also released our first parallel-processing C compiler. And to enhance our networking capabilities, we incorporated several standards into our system software, such as OSI, the emerging international standard. The breadth of software products provided in 1990 allowed our customers to access and optimize the computational power of their Cray Research systems regardless of model type.

Strong financial performance and good products mean nothing unless they are translated into customer satisfaction. One measure of customer satisfaction comes from examining installations and upgrades that we made during the year. The total contract value of 1990 installations was approximately \$652 million. The automobile, environment, and aerospace sectors were particularly strong with a total of 27 systems worth more than \$254 million. In addition, \$196 million came from 24 customers taking delivery of their first Cray Research systems.

It is important, however, to look behind the numbers. At Cray Research, we conduct a thorough customer satisfaction survey each year to obtain a complete and objective picture of how our customers see us. I am pleased to report that when asked how well their Cray Research systems were living up to expectations, our customers gave us an overall rating of 8.0 out of 10.

equivalent to our 1989 score and considered excellent by industry observers. Particular areas of increased satisfaction in 1990 include the reliability of our peripherals and Fortran compiler and the overall reliability and performance of our C compilers. But we also look at areas where we need to improve. Specifically, we are committed to significantly improving the ratings given us by our *least* satisfied customers. We have action plans developed for each of these clients for 1991.

We always have recognized that each and every employee plays a key role in customer satisfaction. In 1990, we formalized that belief by establishing specific account teams for each of our current customers as well as a number of key prospects. Each team is led by the Cray Research account representative, but includes employees from finance, engineering, software development, manufacturing, and headquarters, as well as marketing. It's a chance for all of us to become directly involved with our customers.

Finally, we continued our progress on emphasizing the critical importance of individual creativity to our success at Cray Research. Creative individuals design, build, sell, and service our hardware, while others imagine, design, and build our software, and still others manage the

business of running an industry-leading company.

We have long had in place a professional path on which technical employees can advance without taking on additional management responsibility. In 1990, we extended that path to the very highest levels. Six individuals became officers: Carl Diem, Del Eberlein, Dick Nelson, Steve Nelson, Irene Qualters, and Tony Vacca. These talented people have been able to maintain their commitment to their technical disciplines and yet receive the recognition and rewards usually reserved for those who supervise large groups of employees.

And now our vision for the future.

We at Cray Research see the world challenged during the 1990s to address many fundamental issues. These include environmental issues such as global warming, health issues such as the defeat of cancer and AIDS, energy issues such as oil field management, and others. In addition, every developed country's economic competitiveness and even national security depends more and more on being able to create new products and services with the highest possible "knowledge content."

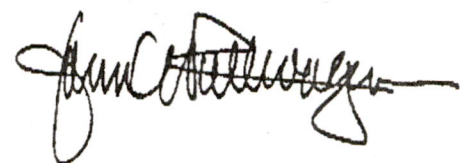
Meeting these challenges requires effective use of the highest performance computing obtainable.

Furthermore, this computing power is useless until it is put into the hands of the millions of scientists and engineers throughout the world in a form they can use easily on a day-to-day basis. We are uniquely positioned to meet this need.

As such, we have recommitted ourselves to designing and building the world's most powerful hardware and software systems. This is evidenced by the broad product line we have created. By the end of 1991, with the advent of the CRAY YMS and the CRAY Y-MP16 systems, Cray Research will have a fully compatible range of products spanning \$300,000 to \$30 million. This product line can take on the toughest technical challenges our world faces.

At the same time, we have committed ourselves to continue the push forward toward a Teraflops computer -- a computer that can perform one trillion calculations per second. To do this, we have initiated a project to create the most powerful massively parallel system that can be built and, at the same time, to integrate that capability with our existing architecture and technology. We also have committed ourselves to continuing the development of application programs and networking products based on international standards, which will allow us to deliver the power of our systems to researchers anywhere in the world in a language they can understand and a form they can use.

During 1990, Cray Research put in place the building blocks needed to realize our vision for high-performance computing. We are excited by the prospect of seeing that vision applied to the real-world challenges that face us all, and we appreciate your support in our efforts to bring this vision to life.



John A. Rollwagen
Chairman and
Chief Executive Officer
February 27, 1991





Independent-Republicans of Minnesota

Salute

VICE PRESIDENT DAN QUAYLE

Jane Emison - Asked about

Russian economy - concerned about the situation - particularly food.

UP - Distribution is the real problem. Problem coming from a Leninist system. All the money in the world won't help until that system is dismantled.

Hugh Schilling - Concerned about what's happening w/ all the military hardware.

UP: Trying to draw scientists to this country - don't want them going to the 3rd world. Also concerned about flow of arms to Iran and elsewhere. Concerned finally about whether Yeltsin has let expectations get too high.

_____ - Asked about U.S. of Europe.

UP: Lots of barriers to doing this, doubts it'll ever go that far. Recounted the barriers to even having a common currency. Big question: what's in it for Germany - why are they doing it.



Independent-Republicans of Minnesota
Salute

VICE PRESIDENT DAN QUAYLE

Marvin Schwartz - Concerned about children, about what govt is doing that hurts the family. VP: We have a tax program to address the overtaxation of families — also our welfare programs are becoming increasingly tailored to incentives for keeping families together.

Glenn Taylor - asked about VP's advice to the POTUS about how to deal with Japan -

VP - Need to be specific w/ Japan - come to the meeting with an agenda. Quietly you must let them know you are serious about it. Also, Diet has never been redistricted since McArthur was there. The LDP is increasingly divided into factions, and its scandal ridden too.

Steve K - Asked about health care proposal, particularly Admin. costs.

VP - our proposal relies on the market, access will be through a tax credit - avoiding big government schemes.



Independent-Republicans of Minnesota

Salute

VICE PRESIDENT DAN QUAYLE

Doug Kelley - What's your
role going to be in the
upcoming campaign - Why Mario focus?
VP - Mario let me down! The NH
vote kind ~~of~~ took the air of
his potential campaign. He's finished.
Recounted story of Howard speech.

PREVIOUS TRAVEL TO MINNESOTA

1989/02/13	Minneapolis	Minnesota	Lincoln Day Dinner and Roundtable
1990/10/09	Rochester	Minnesota Minnesota	Media Roundtable FR Bkft f/Grunseth

THE WHITE HOUSE
Office of the Press Secretary
(Tokyo, Japan)

FOR IMMEDIATE RELEASE

January 9, 1992

FACT SHEET: COMPUTER PROCUREMENT

On January 9, 1992, the U.S. Government and Japanese Government reached an agreement on Japanese public sector computer procurement. The Government of Japan will initiate measures with the goal of expanding Japanese public sector computer procurements of competitive foreign computer products and services. Given the competitiveness of U.S. computer manufacturers, the measures should lead to substantially increased sales in the Japanese public sector market. The agreement also contains significant procedural improvements, including an impartial bid protest system, increased transparency and reduction of single tendering by Japanese Government entities. Further, the Government of Japan will commit to promote a multi-vendor open systems environment.

According to the U.S. computer industry, foreign companies currently have a 41 percent share of the \$16.1 billion Japanese private sector mainframe market, but only 6 percent of the \$3 billion Japanese public sector mainframe market. (The U.S. industry estimates the overall public sector market for computer hardware, including mainframes, at \$6 billion.)

This agreement also covers government procurement of computer services which is the fastest growing sector of the market.

#

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

January 22, 1992

FACT SHEET

U.S. JAPAN COMPUTER AGREEMENT

Today, United States Trade Representative Carla A. Hills and Japanese Ambassador to the United States Ryohei Murata exchanged letters committing the Japanese government to base its procurements on the principles of non-discrimination, transparency of computer products and services, and fair and open competition. This should create significant new sales opportunities for U.S. manufacturers of mainframe and smaller computers and workstations, U.S. software producers, and U.S. service providers and system integrators.

Ambassador Murata's letter conveyed a set of detailed Measures Related to Japanese Public Sector Procurements of Computer Products and Services for government and quasi-governmental entities to follow when procuring computer products and services. The "Measures" explicitly state that they have the "aim of expanding procurements of competitive foreign computer products and services" by Japanese public sector entities.

Major provisions of the Measures include:

- Assurances by the Government of Japan that foreign and domestic suppliers will be accorded equal access to pre-bid information.
- Coverage of both computer products (effective April 1, 1992) and services (effective October 1, 1992 for governmental entities covered by the GATT Agreement on Government Procurement; effective April 1, 1993 for other covered entities.)
- Commitment to formulate technical specifications in a neutral, non-discriminatory manner and to ensure that foreign computer manufacturers are provided with equal opportunities to participate in the specification-formulating study groups.
- Commitment that procurement entities will reduce their use of single tendering (sole sourcing).

-more-

- Improved transparency of the factors to be used in evaluating competing bids and to award contracts based on both price and performance.
- Establishment of an impartial bid protest system to provide equitable, timely, transparent, and effective bid challenge procedures.
- Establishment of mechanisms to facilitate procedures for the enforcement of the Antimonopoly Act in the public sector.
- Commitment to promote a multi-vendor open systems environment.

The Government of Japan also confirmed that it would take actions to eliminate or prevent anticompetitive behavior relating to the distribution of computer goods and services in the private sector.

The United States and Japan agreed to hold periodic consultations to assess progress in implementing the Measures based on relevant information as defined in the exchange of letters.

Key Statistics

- o The Japanese public sector market for computer products and services is estimated to have been \$9 billion in 1990.
 - Computer products, including computer hardware, peripherals, and packaged software, account for two-thirds of that total, or \$6 billion.
 - The Japanese public sector market for computer services, including systems integration and software development, is estimated to have been valued at \$3 billion in 1990.
- o The government sector computer market represents about 15% of the total computer market in Japan. The overall (public and private sector) Japanese market for computer products and services is estimated to have been \$60 billion in 1990.
- o The Japanese market for computer products and services is projected to grow 11.7 percent annually from 1990-1995.
 - The Japanese government market for computer products and services is projected to reach \$15.8 billion in 1995.
 - The combined private and public sector Japanese market for computer products and services is projected to grow to \$105 billion in 1995.

3

- o Foreign computer companies currently have only a six-percent share of the Japanese public sector mainframe computer market, considerably below the 41-percent share they hold of the private sector market for mainframe computers in Japan.
- o At the national government level, foreign computer companies have only 0.4% of the Japanese government market for mainframe computers.
- o Data on the foreign share of the total market for computer products and services are not available. Data on the U.S. share of the Japanese market are also unavailable.
- o Private sector analysts project increased exports of \$3.5-5.5 billion by 1995, from the current level of about \$500 million -- a ten-fold increase.

Source: The Computer Systems Policy Project

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American Tort Reform Association

1212 New York Avenue, N.W. • Suite 515 • Washington, D.C. 20005 • (202) 682-1163

Minnesota

Thomas Schmidt, Esq.
Executive Director
Minnesota Civil Justice Coalition
Hessian, McKasy, & Soderberg
80 South Eight Street
4700 IDS Center
Minneapolis, MN 55402
(612) 224-4911

The Minnesota Civil Justice Coalition was established in 1986 and pushed through a bill that year which limited awards for loss of consortium, emotional distress or embarrassment at \$400,000 (unfortunately no cap was placed on pain and suffering). The bill also allowed evidence of collateral sources of payment, provided for frivolous suit sanctions, prohibited prejudgment interest and prohibited punitive damage claims in the original complaint.

In 1988 the coalition went back with legislation to abolish the joint and several liability doctrine. Unfortunately in a compromise late in the session, a low threshold bill was passed. The statute provides that defendants who are less than 15% at fault will only pay four times their share of damages if the other defendants are insolvent. The coalition is back this year with a bill that would provide that defendants who are less than 30% at fault pay only their share of damages. That measure is HF 396 (Simoneau). It was the subject of a January hearing in the House Judiciary Committee.

It is important to note that further punitive damages reform was enacted in Minnesota in 1990. At the request of a legislative commission that met for a year, the legislature enacted a measure raising the standard of conduct for punitive damages from "willful indifference" to "deliberate disregard," established a defendant's right to insist on a bifurcated trial with the punitive damages award determined in the second half of the trial, and providing trial and appellate judges the power to review all punitive awards.

This year the Minnesota Civil Justice Coalition is working with the business and medical communities on a health access bill. Legislators here realize that they can reduce health care costs by enacting tort reforms.

The Minnesota coalition can certainly help invite the CEOs of 3M, Control Data, etc. Many of these corporations are members of the Business Partnership which works with the Minnesota coalition.

Thomas Schmidt, an attorney with the law firm of Hessian, McKasy, and Soderberg, acts as the Executive Director of the Minnesota Civil Justice Coalition. Tom stands ready to help you with the effort.

over \$500,000. The petitioners are currently waiting for a court ruling on their request.

The Michigan Product Liability Task Force is waiting for the right time to press for products liability reform. In the meantime many of its members are supporting the Medical Liability Reform Coalition.

MINNESOTA

CONVENES JANUARY 6 -- ADJOURNS IN APRIL

Mr. Thomas E. Schmidt
Executive Director
Minnesota Civil Justice Coalition
80 South Eight Street
4700 IDS Center
Minneapolis, Minnesota 55402
612-330-3000

Mr. Thomas Meskan
Steering Committee
Minnesota Civil Justice Coalition
Medical Alley Association
One Apple Tree Square, Suite 1307
8009 34th Avenue South
Bloomington, Minnesota 55425-1624
612-854-9084

Enthusiasm created by the President's Council on Competitiveness and its "Agenda for Civil Justice Reform" has inspired the Minnesota Civil Justice Coalition with new hope for the passage of reform legislation this year. A health access bill vetoed last year by the governor as being prohibitively expensive will be back in a new form this year. One of the main ways legislators are trying to reduce health access costs is by implementing tort reform! Due to a joint effort by the MCJC, business and medical interests, this bill will include the following provisions; joint and several liability reform, limits on non-economic damages, a revision of expert witness standards, structured settlements, the payment of punitive damage awards to a state fund for the uninsured, an FDA defense for punitive damages, and incentives to use alternative dispute resolution techniques.

The Medical Alley Association, which represents all facets of the health care industry, will also be introducing a major reform bill. The areas addressed are:

- o clarification of the state's standards for awarding punitive damages. Currently punitive damages may be awarded based on the defendant's "attitude upon discovery" of an injury. The bill would strike this provision.
- o limitation of damage awards (amounts still not set).
- o prohibition of punitive damage awards in cases in which no compensatory damages are awarded (this determination would be made in a separate proceeding for punitive damages already in place under current law).
- o provision for an FDA defense for drugs and devices in absence of fraud
- o requirement that punitive damage awards "reasonably relate" to the compensatory damage award.

o payment of punitive damages to a state fund designated for the purpose of providing health care to citizens who do not currently have access to such care.

Additionally, two 1991 joint and several liability bills that carried over for consideration this year are attracting a lot of attention. HF 396 (Simoneau) and a companion bill SF 591 (Stumpf), measures which would provide for a 30% threshold for the application of joint and several liability, were the subject of interim study hearings this summer. HF 396 has been the subject of Civil Law Subcommittee hearings this session. If the response to joint and several liability reform is strong enough, the Minnesota Civil Justice Coalition (CJC) may ask sponsors to improve the bill by amending it to provide for the "California Rule", eliminating joint and several liability for non-economic damages. The CJC hopes this bill will be on the House Floor in 1992. Although the Senate will be a tougher battle, the coalition is optimistic due to the pro-tort reform atmosphere in Minnesota.

Concerned parties should also watch for protective order legislation.

MISSISSIPPI

CONVENES JANUARY 7 -- ADJOURNS MAY 10

Mr. Bob W. Pittman
Mississippi Economic Council
State Chamber of Commerce
P.O. Box 23276
Jackson, Mississippi 39225-3276
601-969-0022

Mr. Steve Dickson
Product Liability Task Force
of Mississippi, Inc.
Corporate Relations Management
P.O. Box 84
Canton, Mississippi 39046
601-859-6871

A new Republican governor with a strong business background has raised the hopes of tort reformers in Mississippi. The governor is so committed to reform that he has promised to attend legislative meetings around the state sponsored by the coalition. The outlook for passage has improved! As a result of the revitalized atmosphere a new coalition has been formed, the Mississippi Business Coalition. This new group is made up of the Mississippi Manufacturers Association, the Retailers Association of Mississippi, the Mississippi Economic Council and the Product Liability Task Force. They hope to introduce punitive damage and product liability reform legislation.



American Business Conference

FAX TRANSMISSION

FAX: (202) 467-4070

Date:

2/14

From:

Maedra Pargau

To:

John Howard

Fax No.:

Total number of pages (including this cover sheet):

6

Message:

If you need more - please let
me know -
Have a good trip!

If transmission is not clearly or completely received, please call (202) 822-9300



ABC 100

JOHN F. CARLSON

President & COO
Cray Research, Inc.
Minneapolis, Minnesota

COMPANY:

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World leader in supercomputers with more than 60% of the worldwide installed base
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PERSONAL:

Gray Research: executive vice president and C.F.O., 1982 - 1991; vice president of finance and C.F.O., 1978 - 1982; treasurer, 1977 - 1978; director of finance, 1976 - 1977
Boards: TSI Incorporated; Junior Achievement of the Twin Cities, Inc.; Science Museum of Minnesota; Carondelet Life-Care Corporation; Riverside Medical Center
Education: B.S., Saint Mary's College, Winona Minnesota; CPA



ABC 100

JOHN A. ROLLWAGEN

Chairman President & CEO
Cray Research, Inc.
Minneapolis, Minnesota

"We define supercomputers and we create the market. Everything we do seems to be a discovery project."

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Industry: Industrial-High-Tech
World leader in supercomputers with more than 60% of the worldwide installed base
Engaged in the design, development, and manufacture of large-scale, high-speed computing systems, as well as the marketing and support of such systems
Total revenues for 1990: \$304 million
4700 employees
Founded 1972

PERSONAL:

Instrumental in establishing Cray's early marketing efforts
Received M.I.T. Alumni Award for Distinguished Corporate Leadership in 1984
Boards: Advisory Commission for Trade Policy and Negotiations (ACTN), Apple Computer, Inc., Dayton-Hudson Corporation, Federal Reserve Bank of Minneapolis, Minneapolis Business Partnership, U.S./Japan Business Council, Minnesota Public Radio
Education: B.S., M.I.T.; M.B.A., Harvard Business School

"International competitiveness with much larger, more powerful enterprises. Perhaps the key element in this will be the availability of motivated, educated and creative people."

equivalent to our 1989 score and considered excellent by industry observers. Particular areas of increased satisfaction in 1990 include the reliability of our peripherals and Fortran compiler and the overall reliability and performance of our C compilers. But we also look at areas where we need to improve. Specifically, we are committed to significantly improving the ratings given us by our *least* satisfied customers. We have action plans developed for each of these clients for 1991.

We always have recognized that each and every employee plays a key role in customer satisfaction. In 1990, we formalized that belief by establishing specific account teams for each of our current customers as well as a number of key prospects. Each team is led by the Cray Research account representative, but includes employees from finance, engineering, software development, manufacturing, and headquarters, as well as marketing. It's a chance for all of us to become directly involved with our customers.

Finally, we continued our progress on emphasizing the critical importance of individual creativity to our success at Cray Research. Creative individuals design, build, sell, and service our hardware, while others imagine, design, and build our software, and still others manage the

business of running an industry-leading company.

We have long had in place a professional path on which technical employees can advance without taking on additional management responsibility. In 1990, we extended that path to the very highest levels. Six individuals became officers: Carl Diem, Del Eberlein, Dick Nelson, Steve Nelson, Irene Qualters, and Tony Vacca. These talented people have been able to maintain their commitment to their technical disciplines and yet receive the recognition and rewards usually reserved for those who supervise large groups of employees.

And now our vision for the future.

We at Cray Research see the world challenged during the 1990s to address many fundamental issues. These include environmental issues such as global warming, health issues such as the defeat of cancer and AIDS, energy issues such as oil field management, and others. In addition, every developed country's economic competitiveness and even national security depends more and more on being able to create new products and services with the highest possible "knowledge content."

Meeting these challenges requires effective use of the highest performance computing obtainable.

Furthermore, this computing power is useless until it is put into the hands of the millions of scientists and engineers throughout the world in a form they can use easily on a day-to-day basis. We are uniquely positioned to meet this need.

As such, we have recommitted ourselves to designing and building the world's most powerful hardware and software systems. This is evidenced by the broad product line we have created. By the end of 1991, with the advent of the CRAY YMS and the CRAY Y-MP16 systems, Cray Research will have a fully compatible range of products spanning \$300,000 to \$30 million. This product line can take on the toughest technical challenges our world faces.

At the same time, we have committed ourselves to continue the push forward toward a Teraflops computer -- a computer that can perform one trillion calculations per second. To do this, we have initiated a project to create the most powerful massively parallel system that can be built and, at the same time, to integrate that capability with our existing architecture and technology. We also have committed ourselves to continuing the development of application programs and networking products based on international standards, which will allow us to deliver the power of our systems to researchers anywhere in the world in a language they can understand and a form they can use.

During 1990, Cray Research put in place the building blocks needed to realize our vision for high-performance computing. We are excited by the prospect of seeing that vision applied to the real-world challenges that face us all, and we appreciate your support in our efforts to bring this vision to life.



John A. Rollwagen
Chairman and
Chief Executive Officer
February 27, 1991



To Our Stockholders:

1990 was an excellent year for Cray Research in two fundamental ways.

First, we re-established our strong earnings-per-share momentum with a 33 percent increase over 1989 despite essentially flat revenues. We earned \$4.02 per share compared with \$3.02 for 1989. Revenues were \$804.4 million compared with \$784.7 million in 1989. We also closed the year with a backlog of \$338 million, giving us a strong position entering 1991.

Second, and more importantly, we built a strong platform for growth during the coming decade. Following our restructuring and the spin-off of Cray Computer Corporation (CCC), we spent 1990 re-examining and rebuilding the entire business proposition for Cray Research. While we have preserved the best of our heritage — especially our commitment to the highest performance computer systems in the world — we have added several new elements, which when combined with the old, create a new vision for growth and success in this decade. This new vision is in absolute concert with the major changes taking place in the world around us.

This annual report, then, goes beyond a recitation of our experiences in 1990, to explain the basis for our optimism about the coming decade. I hope you will take the time to read it carefully so you can share our enthusiasm for the future. If you have any questions about our plans or, even better, ideas to improve them, I hope that you will contact me personally.

We achieved enviable performance in all aspects of the company's activities, including finance, marketing, development, manufacturing, and the recognition of our most important asset, our people.

In addition to achieving strong profit performance, we also concentrated on our cash flow. This was particularly important given our need to finance the spin-off of CCC. We reduced inventories and receivables

by \$66.3 million. That, plus savings in other asset areas and our strong operating results, allowed us to transfer \$48.9 million to CCC, to make \$62.7 million in capital expenditures, and to buy back \$89.4 million of our stock — all without new financing. And we were able to maintain a cash and investments balance at year-end of \$204.2 million.

We continued our strong dedication to both hardware and software technology by investing \$128.4 million, or 16 percent of revenues, in engineering and development. This is evident in the significant broadening of our high-performance computer product mix. We successfully introduced the easy-to-install, air-cooled CRAY Y-MP2E system in May. It has been warmly received in the market. By year-end, 12 systems had been ordered and several were being installed. We expect fully half of the systems delivered in 1991 to be this new model.

At the other end of the range, progress on the CRAY Y-MP16 system, the most powerful system we have ever attempted, was extremely gratifying. By year-end, we had demonstrated a single processor version of the system running customer codes. Initial results indicate that when we demonstrate a fully configured 16-CPU system later in 1991, it will have three to five times the power of our current CRAY Y-MP8 system. And when we measure power, we are not talking just about peak speeds, but real performance on real codes for real customers.

During 1990, we completed the acquisition of Supertek Computers, Inc., using that as the basis for our new Entry Level Systems (ELS) division. By fall, led by Mike Lindseth, ELS had improved the hardware technology of Supertek's equipment and combined it with the full power of Cray Research software. The resulting new CRAY XMS system was introduced in August, and customer deliveries began in December. The CRAY XMS system has demonstrated one-tenth the power of full-sized Cray Research supercomputers at about one-tenth the cost. ELS

also announced plans to develop a follow-on product, the CRAY YMS system, in 1991. The CRAY YMS system promises to span a range of performance from the CRAY XMS system to a single-processor CRAY Y-MP system — but at a considerable reduction in price.

Complementing these hardware achievements was an equally ambitious program in software development. We saw the culmination of the first phase of Project Everest, created to make our UNICOS operating system the most reliable and easy-to-use in the industry. A new release of the Fortran compiling system supported our lead in parallel processing and high-performance vectorization. We also released our first parallel-processing C compiler. And to enhance our networking capabilities, we incorporated several standards into our system software, such as OSI, the emerging international standard. The breadth of software products provided in 1990 allowed our customers to access and optimize the computational power of their Cray Research systems regardless of model type.

Strong financial performance and good products mean nothing unless they are translated into customer satisfaction. One measure of customer satisfaction comes from examining installations and upgrades that we made during the year. The total contract value of 1990 installations was approximately \$652 million. The automobile, environment, and aerospace sectors were particularly strong with a total of 27 systems worth more than \$254 million. In addition, \$196 million came from 24 customers taking delivery of their first Cray Research systems.

It is important, however, to look behind the numbers. At Cray Research, we conduct a thorough customer satisfaction survey each year to obtain a complete and objective picture of how our customers see us. I am pleased to report that when asked how well their Cray Research systems were living up to expectations, our customers gave us an overall rating of 8.0 out of 10.

Corporate Profile

Cray Research, Inc., was founded on April 6, 1972. The company's mission is to lead in the development and marketing of supercomputers — high-performance systems that make a unique contribution to the markets they serve.

Cray Research computer systems provide balanced performance for computationally intensive large-scale applications. They are used primarily for physical simulation — the analysis and prediction of the

behavior of physical systems through computer modeling. Physical simulation is common in such disciplines as weather forecasting, aircraft and automotive design, nuclear research, geophysical research, and seismic analysis.

Today, Cray Research has approximately two-thirds of the worldwide market for supercomputers. The company employs approximately 4800 people and operates manufacturing and development facilities in Chippewa Falls and Rice Lake, Wisconsin. Software development,

marketing support, and administrative facilities are located in the Minneapolis-St. Paul area. The company has 30 domestic sales and support offices and 17 subsidiary operations abroad.

Because maintaining performance leadership in its chosen segment of the scientific computer market is the very reason for its existence, Cray Research invests heavily in development and engineering. The company's target is to spend 15 percent of revenue on engineering and development.

Contents

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Cover: model of an anticancer drug binding to DNA. The drug was designed and the binding simulation performed on a CRAY Y-MP supercomputer. Image courtesy of Dr. Frederick H. Hausheer, Medical Oncology, University of Texas Health Sciences Center, San Antonio.

Minnesota State List

12 FEB 1992 1

MAILING LABEL..... FAMILIAR NAME SPOUSE FIRST TITLE..... PHONE..... D CONTACT. Contact Info..... CATEGORIES...
NAME DATE

Evie Axdahl Minnesota GOP 2209 Payne Avenue Maplewood, MN 55117			National Committ (612) 771-5034 (			POLITICAL COMM MEM
The Honorable Rudy Boschwitz State of Minnesota 3401 River Road Bridley, MN 55421	Rudy	Ellen	Former US Senato (612) 475-2473 H	05/07/91 -Drop by Presidents' Dinner Leadership Committee 04/03/89 Luncheon at the 04/06/89 Hay-Adams Hotel 10/20/89 Reception in honor of Egyptian President 12/26/91 Mubarak/14 members of Egyptian delegation present 01/07/92 Luncheon for Prime Minister and Mrs. Shamir at the residence Breakfast in honor of Felipe Gonzalez Marquez, President of Spain Attended party in Vail hosted by VP/MTQ. VP wrote follow up note to guests that attended his Vail parties.		PERSONAL RES/GUESTS POLITICAL DINNER
Mr. Ward Brehm 706 Second Ave. South, #500 Minneapolis, MN 55402			(612) 339-7385 W			POLITICAL
The Honorable Arne Carlson 30 State Capitol St. Paul, MN 55155	Arne	Susan	abus (612) 296-3391 O	10/20/91 02/03/92 Attended Governors Reception at the Residence.		POLITICAL GOP GOVS GOVS INTERGOVTL
Mr. John Dasburg Northwest Airlines 101 Northwest Drive St. Paul, MN 55111	John		President	06/28/91 The VP and Marilyn sent letters to all those who acted as sponsors in the 1991 Race for the Cure that took place on Saturday, June 15th.		RACE/CURE BUS/ECON
Mr. Jim Emison Western Petroleum Company 531 West 78th Street Eden Prairie, MN 55344	Jim	Jane	President (612) 941-9090 O	09/25/91 Reception at the residence "Friends of the Vice President's Residence"		PERSONAL DINNER MAIL BUS/ECON RES/GUESTS

Minnesota State List

12 FEB 1992 2

MAILING LABEL.....	FAMILIAR NAME	SPOUSE	FIRST TITLE.....	PHONE.....	D	CONTACT. Contact Info.....	CATEGORIES...
	NAME					DATE	
Mr. Peter Hamilton 3832 West Calhoun Parkway Minneapolis, MN 55410	Peter					05/08/91 -Drop by White House Briefing for Annual Washington Seminar of the Young President's Organization -Indian Treaty room -remarks and Q&A	BUS/ECON COMPETIT
Mr. Hal Hansen Post Office Box 9300 Minneapolis, MN 55440						06/13/91 President's Dinner Luncheon Vice President's residence	
The Honorable Chuck Hazama 200 City Hall Rochester, MN 55902	Chuck		Mayor	(507) 285-8080	O	01/24/92 Attended Republican Mayors Coffee in OEOB Office. 01/24/92 Attended coffee with VP in EOB office; VP wrote follow up letter on 1/30/92.	POLITICAL MAYORS
Mr. Ralph Hofstad Management Consultant 7724 Pondwood Drive Edina, MN 55439	Ralph		Former CEO/Land	(612) 942-9836 (612) 933-3930	H O	06/25/91 VP met with members of the newly formed RNC Chairman's Advisory Board on the occasion of their first meeting in DC in the EOB office	POLITICAL RNC BUS/ECON
Mr. C. Charles Jackson 12700 Sherwood Plaza # 110 Minnetonka, MN 55343	Charles			(612) 591-9212	H	09/25/91 Reception at the residence "Friends of the Vice President's Residence"	RES/GUESTS PERSONAL DINNER
Dr. William Jacott 5 Willow Road North Oaks, MN 55127	Bill					06/24/91 Address annual meeting of the American Medical Association House of Delegates -Chicago Hilton and Towers In Chicago, IL	HEALTH
Mr. Douglas Kelley 701 4th Ave. South, Suite 500 Minneapolis, MN 55438				(612) 337-9594			POLITICAL
Mr. B. Lindahl, JR. 1406 Bohn's Point Wayzata, MN 55391	John			(612) 471-0068		01/14/92 VP addressed B/Q '92 National Finance Meeting at JW Marriott.	POLITICAL PERSONAL

Minnesota State List

12 FEB 1992 3

MAILING LABEL.....	FAMILIAR NAME	SPOUSE	FIRST TITLE.....	PHONE.....	D	CONTACT. Contact Info.....	CATEGORIES...
	NAME					DATE	
Mr. H. William Lurton US Chamber of Commerce 3135 Jamestown Road Long Lake, MN 55365	H. William		Incoming Vice Ch			04/29/91 Address the 79th Annual Meeting of the US Chamber of Commerce at Constitution Hall	BUS/ECON
Mr. M. McCauley 404 E. Howard Winona, MN 55987	Mac						POLITICAL PERSONAL INTERGOVTL
Mr. Larry Miller 2950 Dean Parkway, #2002 Minneapolis, MN 55416				(612) 920-4600		01/14/92 01/14/92 VP addressed B/Q '92 National Finance Meeting at JW Marriott.	POLITICAL PERSONAL
Mr. John Morrison 4500 Norwest Center Minneapolis, MN 55402				(612) 338-5912			POLITICAL
The Honorable Tom Neuville State of Michigan P.O. Box 7 Northfield, MN 55057	Tom		State Senator	(612) 926-1279	0		POLITICAL PERSONAL INTERGOVTL ST LEGS GOP ST LEG
The Honorable Patricia Pariseau State of Minnesota 109 State Office Bldg. St. Paul, MN 55155	Patricia		State Representa	(612) 296-5252	0		POLITICAL PERSONAL INTERGOVTL ST LEGS GOP ST LEG
The Honorable George Pillsbury Sargent Management Company 1300 TCF Tower Minneapolis, MN 55402				(612) 338-3873	0	05/29/91 -Team 100 National Meeting Reception 10/17/91 -6:30pm at the Willard Hotel (Ballroom-lower level) -Brief remarks Dinner in Honor of Team 100 at the White House	POLITICAL TEAM 100 BUS/ECON PERSONAL
Mrs. Laurie Pillsbury	Laurie					01/14/92 VP addressed B/Q '92 National Finance Meeting at	POLITICAL

Minnesota State List

12 FEB 1992 4

MAILING LABEL..... FAMILIAR NAME SPOUSE FIRST TITLE..... PHONE..... D CONTACT. Contact Info..... CATEGORIES...
NAME DATE

6900 Stonewood Court Eden Prairie, MN 55346			JW Marriott.	PERSONAL
Mrs. Sally Pillsbury President's Committee on the Arts 1300 Bracketts Point Road Wayzata, MN 55391	Sally	Committee Member (612) 473-9634 W	09/27/91 photo opportunity with Members of the President's 01/14/92 Committee on the Arts in the OEGB office VP addressed B/Q '92 National Finance Meeting at JW Marriott.	ARTS/HUMAN POLITICAL PERSONAL
Mr. Robert Pool National Association for the Self-Employed 6309 Hillside Road Edina, MN 55436		(612) 338-8155 O		BUS/ECON TA/DC REPS
Mr. David Printy Minnesota GOP 19 South First Street Apt. B2701 Minneapolis, MN 55401	Dave	National Committ (612) 933-2838 ((612) 333-4448 (		POLITICAL COMM MEM
Mr. Dean Riesen 45 S. 7th Street, Suite 2222 Minneapolis, MN 55402		(612) 497-2114		POLITICAL
Mr. Mike Triggs Minnesota GOP 8030 Cedar Avenue Suite 202 Bloomington, MN 55425		Executive Direct (612) 845-1446		POLITICAL COMM MEM
American Variety Theatre Company Minneapolis, MN				POL
General Jack Vessey Star Route Box 136-A Garrison, MN 56450	General Vesse	(612) 632-6631 W	04/24/91 Dinner in honor of Caspar and Jane Weinberger	MILITARY RES/GUESTS

Minnesota State List

12 FEB 1992 5

MAILING LABEL..... FAMILIAR NAME SPOUSE FIRST TITLE..... PHONE..... D CONTACT. Contact Info..... CATEGORIES...
NAME DATE

Mr. Bob Weinholzer Minnesota GOP 2422 Schadt Maplewood, MN 55119	Chairman	(612) 854-1446 ((612) 735-3318 (		POLITICAL COMM MEM
Mr. Frederick Weyerheuser 2100 1st National Bank Building St. Paul, MN 55101		(612) 228-0935		POLITICAL
Mr. Wheelock Whitney Whitney Management Company 1900 Forshay Tower 821 Marquette Avenue Minneapolis, MN 55402	Chairman	(612) 337-5656 O (612) 479-2575	05/29/91 -Team 100 National Meeting Reception -6:30pm at the Willard Hotel (Ballroom-lower level) -Brief remarks	POLITICAL TEAM 100 BUS/ECON PERSONAL
Mr. Alan Wilensky 2200 First Bank Place East Minneapolis, MN 55402		(612) 340-8708	01/14/92 VP addressed B/Q '92 National Finance Meeting at JW Marriott.	POLITICAL PERSONAL



American Tort Reform Association

1212 New York Avenue, N.W. • Suite 515 • Washington, D.C. 20005 • (202) 682-1163

Minnesota

Thomas Schmidt, Esq.
Executive Director
Minnesota Civil Justice Coalition
Hessian, McKasy, & Soderberg
80 South Eight Street
4700 IDS Center
Minneapolis, MN 55402
(612) 224-4911

The Minnesota Civil Justice Coalition was established in 1986 and pushed through a bill that year which limited awards for loss of consortium, emotional distress or embarrassment at \$400,000 (unfortunately no cap was placed on pain and suffering). The bill also allowed evidence of collateral sources of payment, provided for frivolous suit sanctions, prohibited prejudgment interest and prohibited punitive damage claims in the original complaint.

In 1988 the coalition went back with legislation to abolish the joint and several liability doctrine. Unfortunately in a compromise late in the session, a low threshold bill was passed. The statute provides that defendants who are less than 15% at fault will only pay four times their share of damages if the other defendants are insolvent. The coalition is back this year with a bill that would provide that defendants who are less than 30% at fault pay only their share of damages. That measure is HF 396 (Simoneau). It was the subject of a January hearing in the House Judiciary Committee.

It is important to note that further punitive damages reform was enacted in Minnesota in 1990. At the request of a legislative commission that met for a year, the legislature enacted a measure raising the standard of conduct for punitive damages from "willful indifference" to "deliberate disregard," established a defendant's right to insist on a bifurcated trial with the punitive damages award determined in the second half of the trial, and providing trial and appellate judges the power to review all punitive awards.

This year the Minnesota Civil Justice Coalition is working with the business and medical communities on a health access bill. Legislators here realize that they can reduce health care costs by enacting tort reforms.

The Minnesota coalition can certainly help invite the CEOs of 3M, Control Data, etc. Many of these corporations are members of the Business Partnership which works with the Minnesota coalition.

Thomas Schmidt, an attorney with the law firm of Hessian, McKasy, and Soderberg, acts as the Executive Director of the Minnesota Civil Justice Coalition. Tom stands ready to help you with the effort.

over \$500,000. The petitioners are currently waiting for a court ruling on their request.

The Michigan Product Liability Task Force is waiting for the right time to press for products liability reform. In the meantime many of its members are supporting the Medical Liability Reform Coalition.

MINNESOTA

CONVENES JANUARY 6 -- ADJOURNS IN APRIL

Mr. Thomas E. Schmidt
Executive Director
Minnesota Civil Justice Coalition
80 South Eighth Street
4700 IDS Center
Minneapolis, Minnesota 55402
612-330-3000

Mr. Thomas Meskan
Steering Committee
Minnesota Civil Justice Coalition
Medical Alley Association
One Apple Tree Square, Suite 1307
8009 34th Avenue South
Bloomington, Minnesota 55425-1624
612-854-9084

Enthusiasm created by the President's Council on Competitiveness and its "Agenda for Civil Justice Reform" has inspired the Minnesota Civil Justice Coalition with new hope for the passage of reform legislation this year. A health access bill vetoed last year by the governor as being prohibitively expensive will be back in a new form this year. One of the main ways legislators are trying to reduce health access costs is by implementing tort reform! Due to a joint effort by the MCJC, business and medical interests, this bill will include the following provisions; joint and several liability reform, limits on non-economic damages, a revision of expert witness standards, structured settlements, the payment of punitive damage awards to a state fund for the uninsured, an FDA defense for punitive damages, and incentives to use alternative dispute resolution techniques.

The Medical Alley Association, which represents all facets of the health care industry, will also be introducing a major reform bill. The areas addressed are:

- o clarification of the state's standards for awarding punitive damages. Currently punitive damages may be awarded based on the defendant's "attitude upon discovery" of an injury. The bill would strike this provision.
- o limitation of damage awards (amounts still not set).
- o prohibition of punitive damage awards in cases in which no compensatory damages are awarded (this determination would be made in a separate proceeding for punitive damages already in place under current law).
- o provision for an FDA defense for drugs and devices in absence of fraud
- o requirement that punitive damage awards "reasonably relate" to the compensatory damage award.

o payment of punitive damages to a state fund designated for the purpose of providing health care to citizens who do not currently have access to such care.

Additionally, two 1991 joint and several liability bills that carried over for consideration this year are attracting a lot of attention. HF 396 (Simoneau) and a companion bill SF 591 (Stumpf), measures which would provide for a 30% threshold for the application of joint and several liability, were the subject of interim study hearings this summer. HF 396 has been the subject of Civil Law Subcommittee hearings this session. If the response to joint and several liability reform is strong enough, the Minnesota Civil Justice Coalition (CJC) may ask sponsors to improve the bill by amending it to provide for the "California Rule", eliminating joint and several liability for non-economic damages. The CJC hopes this bill will be on the House Floor in 1992. Although the Senate will be a tougher battle, the coalition is optimistic due to the pro-tort reform atmosphere in Minnesota.

Concerned parties should also watch for protective order legislation.

MISSISSIPPI

CONVENES JANUARY 7 -- ADJOURNS MAY 10

Mr. Bob W. Pittman
Mississippi Economic Council
State Chamber of Commerce
P.O. Box 23276
Jackson, Mississippi 39225-3276
601-969-0022

Mr. Steve Dickson
Product Liability Task Force
of Mississippi, Inc.
Corporate Relations Management
P.O. Box 84
Canton, Mississippi 39046
601-859-6871

A new Republican governor with a strong business background has raised the hopes of tort reformers in Mississippi. The governor is so committed to reform that he has promised to attend legislative meetings around the state sponsored by the coalition. The outlook for passage has improved! As a result of the revitalized atmosphere a new coalition has been formed, the Mississippi Business Coalition. This new group is made up of the Mississippi Manufacturers Association, the Retailers Association of Mississippi, the Mississippi Economic Council and the Product Liability Task Force. They hope to introduce punitive damage and product liability reform legislation.

ABR

LAW OFFICES
HESSIAN, MCKASY & SODERBERG

PROFESSIONAL ASSOCIATION

4700 IDS CENTER

MINNEAPOLIS, MINNESOTA 55402

(612) 330-3000

TELECOPIER: (612) 371-0653

September 3, 1991

HAROLD J. SODERBERG
WINSTON W. BORDEN
ROLLIN F. WEST
THOMAS E. HARMS
JAMES A. STEIN
DARRELL B. JOHNSON
LLOYD S. STERN
MARK R. MILLER
WILLIAM J. JOANIS
WILLIAM S. BORCHERS
THOMAS E. SCHMIDT
JEROME M. SODERBERG
LEE A. HENDERSON
SUSAN RESTER MILES
STEVEN T. HETLAND

MAURICE A. HESSIAN, SR. (1888-1956)
MAURICE A. HESSIAN, JR. (1920-1971)
JOHN J. MCKASY (1906-1986)

SAINT PAUL OFFICE
700 SAINT PAUL BUILDING
SIX WEST FIFTH STREET
SAINT PAUL, MINNESOTA 55102
(612) 224-4911

WASHINGTON, D. C. OFFICE
SUITE 500, 1225 EYE STREET, N. W.
WASHINGTON, D. C. 20005
(202) 842-3000

330-3004

WRITER'S DIRECT LINE

The Honorable Dan Quayle
Vice President of the United States
Old Executive Office Building
Washington, D.C. 20501

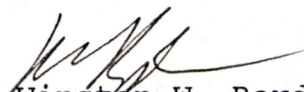
Dear Mr. Vice President:

I have read news accounts regarding your recent speech to the ABA, and I agree with many of the sentiments you expressed as reported in the news.

I'd very much appreciate receiving a copy of your speech to the ABA.

With best wishes, I am

Sincerely,


Winston W. Borden

WWB:djh

6678-1

Horstman Agency

INSURANCE

TOM HORSTMAN
6228 RUSSELL AVE. SO.
MINNEAPOLIS, MN 55423

612-866-3951
612-866-1977

August 22, 1991

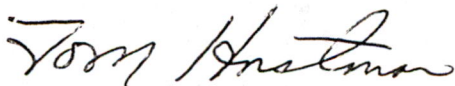
Vice-President Dan Quayle
White House
Washington, D.C.

Dear Mr. Vice President;

Congratulations on speaking out about the over abundance of lawyers in America. It's about time someone in Washington addressed the issue.

Am enclosing an article and some T-shirts that I hope will bring a smile.

Sincerely,



Tom Horstman

The Toro Company

8111 Lyndale Avenue South
Minneapolis, Minnesota 55420
612/887-8911

Vernon A. Johnson
Vice President, Secretary and General Counsel
August 16, 1991

Vice President Dan Quayle
The White House
1600 Pennsylvania Avenue Northwest
Washington, D.C. 20500

Subject: Contingent Fee -- Litigation

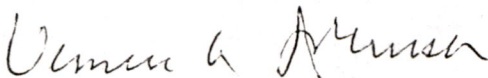
Dear Vice President Quayle:

I learned with interest in the past few days, of your recent "bout" with the American Bar Association regarding the litigation explosion, which is making the United States less competitive in the world economy.

I was reminded that I wrote to you on May 16, 1991, and suggested the real villain in the U.S. judicial system is our abuse of the contingent fee process. It's incumbent upon all of us lawyers to find a way to disincant the use of contingent fee litigation, perhaps by incenting fee-based representation. Those views were expressed in my letter of May 16, 1991, and an attachment to that letter; and I have attached copies of both as a reminder.

The question at hand is whether there is some way to assist you in pursuing this issue. I have not received a response to my May 16 letter, but I am interested in your pursuit of this important issue. I would surely appreciate a response, and any indication of how I can be helpful.

Very truly yours,



Vernon A. Johnson
Vice President, Secretary
and General Counsel

VAJ/wjd

enclosures



Flying Scotchman

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Crystal Airport, 6300 Zane Avenue North, Brooklyn Park, MN 55429 612/537-8485



September 11, 1991

Honorable Vice President of the U.S.
Dan Quayle
The White House
Washington, D.C. 20501

ADJ
THE V. P. HAS BEEN

Dear Mr. Vice President,

We are writing in response to an article in the Minneapolis Star-Tribune dated September 7, 1991. The headline was, "Quayle claims wide public support in battle with lawyers."

Please count us as a whole group of supporters, the "Minnesota Aviation Trades Association." I am a past President of the Minnesota Aviation Trades Association and presently a board member. We have been battling the product liability laws for many years. My family owns and operates a Cessna Flight Training Center in the Metro Area of Minneapolis (Crystal Airport.)

Cessna Manufacturing Corporation, one of the single engine aircraft corporations, had to shut down their plant in 1986 due to the product liability problem. Many of the lawsuits in which they were forced to defend themselves had no merit, but cost the company millions of dollars in the process. They were losing thousands of dollars on each aircraft that came off the production line. This also holds true with all other single engine aircraft manufacturers, such as Beech, Piper, etc.

This problem puts General Aviation Businesses, such as ours, in a terrible position. We have no new aircraft to sell and none for us to purchase to upgrade our fleet. The General Aviation aircraft in the U.S. are aging, and the way it appears, Japan, Germany, and France will have to start filling the need. What a travesty, when in our opinion, the U.S. built planes are far superior. Think of the jobs that have been lost!

You are probably aware of the far reaching affect on General Aviation, but if you aren't, it is our desire that you keep us in mind as you fight as "chairman of the president's Council of Competitiveness," to secure some relief for American companies suffering from the product liability fiasco.

Business is a dirty word to the liberal representation we have in Minnesota. What a breath of fresh air to hear someone is trying to do something about our greatest problem. Thank you again for standing up to the legal profession!

Sincerely,

Roy B. Arneson
Roy B. Arneson, President
Flying Scotchman, Inc.



Cessna

HORIZON AGENCY, inc.



Suite 150
11095 Viking Drive
Eden Prairie, MN 55344
(612) 944-2929
(612) 944-3091 - FAX

ABA



James R. Bina, CPCU
Jake Hoeschler, LLB
Lawrence L. Kitts, CLU, ChFC
Jane L. Johnson
Daniel E. Lindsay
Richard J. Rocheford, Jr.
Daniel J. Scattarella, CPCU
John G. Skare
Noel Totten, Jr.
Eugene J. Zgutowicz



September 23, 1991

Vice President Dan Quayle
The White House
Washington, D.C. 20500

Re: Comprehensive Reform of the Tort Liability System

Dear Mr. Vice-President,

Thank you for going into the lion's den of the American Bar Association and calling for reform of the civil justice system!

If ever a there was a system that operates to restrict the growth of American business...both small and large...it is the legal "justice" system that has developed today.

Specifically, I would encourage to put in motion action that will lead to legislation that would:

- Put limitations on the time and expense of depositions, interrogatories and document requests that are part of the so called "discovery" process,
- Create alternate dispute resolution techniques such as arbitration or mediation,
- Place dollar limits on punitive damage awards, with the amounts being determined by judges rather than juries.
- Limit the testimony of so called "expert" witnesses.
- Adopt the "English rule" that requires the loser to pay the winner's court costs in certain cases to discourage lawsuits that lack merit.

I can't tell you the number of business people, ladies and gentlemen of both large and small businesses, who are literally outraged at the cost and fear today's legal system imposes upon them as they try to negotiate their ways through the minefield of today's legal system...hoping to never take a "hit" from an expensive lawsuit...nuisance-type or otherwise.

Pursue this issue Mr. Vice-President...people will take notice!
Sincerely,

James R. Bina CPCU
President

Need to talk to Emerson

Minneapolis

CEO's - Jack Carlson - Cray Research
- Angus Wurtell - Valspar - paint & coatings
Hall Wendell Jr. - Polaris - snowmobile, all terrain vehicles
Robert Ulrich - Target
Larry Perlman - Control Data
H. Brewster Atwater Jr. - General Mills
Jim Renier - Honeywell
Kenneth Mücke - Dayton-Hudson
R.L. Knowlton - Hormell
Al Jacobson - 3-M L.D. DeSimone
↓ David Koch - Grayco

Feb 13 - 4:00 - Boston Civil Justice
Weld's Chief of Staff is putting it together

North Dakota -

Greater ND Association -

Small Aviation Operators

Have to make sure they come ready to talk

208
Central Data
Lawrence P. ...

612 853 8100

334
Steve Miller

H. Brewster Atwater, Jr.

612 540 2311

395
Money well

J. Power

612 870 5200

Dayton Hudson

Kenneth M. ...

612 370 6948

Harold

R. L. K. ...

507 437 5611

3M

A. E. J. ...

Chen, (not CEO)

Mr. Brad Robinson
President Robinson Rubber Co.
Robinson Rubber Products Company
4600 Quebec Avenue North
Minneapolis, MN 55428

Mr. Michael Wright - Member of U.S. Business Roundtable
President and CEO
Super Valu Stores, Inc.
P.O. Box 990
Minneapolis, MN 55440

Mr. Roger Hale
President and CEO
Chair MN Business Partnership
Tenant Company
701 North Lilac Drive
P.O. Box 1452
Minneapolis, MN 55440

Mr. Don Wegmiller - Very active Republican
President and CEO
Chair of MN Business Partnership
Health One Corporation
2810 57th Avenue North
Minneapolis, MN 55430

AMERICAN BUSINESS CONFERENCE
MINNESOTA

John F. Carlson
President & C.O.O.
Cray Research, Inc.
655-A Lone Oak Dr.
Eagan, MN 55121
(612) 683-7100
FAX: (612) 683-7199

Worldwide leader in the design, development and manufacture of supercomputers as well as the marketing and support of such systems. Holds more than two-thirds of the worldwide installed base.

David A. Koch
Chairman & C.E.O.
Graco, Inc.
P.O. Box 1441
Minneapolis, MN 55440
(612) 623-6600
FAX: (612) 623-6613

Designs, manufactures and markets equipment and systems to move, mix, control, dispense and apply fluid materials. Systems include sophisticated paint circulating and application technology, atomizing devices, control hardware and software. Ten strategic business units with both product and market focus are grouped into four major areas: Fluid Handling, Finishing, Commercial and International.

W. Hall Wendel, Jr. (Hall)
Chairman & C.E.O.
Polaris Industries L.P.
1225 Highway 169 North
Minneapolis, MN 55441
(612) 542-0536
FAX: (612) 542-0599

Designs, engineers and manufactures snowmobiles, utility vehicles and watercraft with related parts, accessories and clothing and markets them through dealers and distributors worldwide.

C. Angus Wurtele (Angus)
Chairman & C.E.O.
The Valspar Corporation
1101 Third Street South
Minneapolis, MN 55415
(612) 375-7700
FAX: (612) 375-7750

One of the five largest domestic manufacturers of paint and related coating. Manufacturer of America's first varnish. Has manufacturing plants and warehouse facilities throughout the United States and Canada.



American Business Conference

ABC 100

JOHN F. CARLSON

President & COO
Cray Research, Inc.
Minneapolis, Minnesota

COMPANY:

Industry: Industrial-High-Tech
World leader in supercomputers with more than 60% of the worldwide installed base
Engaged in the design, development, and manufacture of large-scale, high-speed computing systems, as well as the marketing and support of such systems
Total revenues for 1990: \$804 million
4700 employees
Founded 1972

PERSONAL:

Gray Research: executive vice president and C.F.O., 1982 - 1991; vice president of finance and C.F.O., 1978 - 1982; treasurer, 1977 - 1978; director of finance, 1976 - 1977
Boards: TSI Incorporated; Junior Achievement of the Twin Cities, Inc.; Science Museum of Minnesota; Carondelet Life-Care Corporation; Riverside Medical Center
Education: B.S., Saint Mary's College, Winona Minnesota; CPA



American Business Conference

ABC 100**DAVID A. KOCH**

Chairman & C.E.O.
Graco, Inc.
Minneapolis, Minnesota

COMPANY:

Designs, manufactures and markets equipment and systems to move, mix, control, dispense and apply fluid materials
Systems include sophisticated paint circulating and application technology, complete with robots, atomizing devices, control hardware and software
Ten strategic business units with both product and market focus are grouped into four major areas: fluid handling, finishing, commercial and international
Facilities located in: United States, Germany, France, Japan, England, Norway, Toronto, Korea
Public company which operates in domestic and international markets
Total revenues for 1990: \$321 million
2,300 employees
Founded 1926

PERSONAL:

Former: President, Graco, Inc.; Investment Counselor, Kalman and Company
Boards: Bio-Metric Systems, Inc.; Northwestern National Life Insurance Company; Industry Square Development Company; College of St. Thomas
Member, American Business Conference Europe Task Force
Minnesota Business Partnership; Minneapolis Chamber of Commerce; The Minneapolis Foundation; United Way of Minneapolis
Honors: Uncommon Citizens Award; Distinguished Service Award; Outstanding Philanthropist of the Year; Distinguished Alumnus Award
Education: University of Notre Dame; College of St. Thomas



ABC 100

W. HALL WENDEL, JR.

Chairman & C.E.O.
Polaris Industries L.P.
Minneapolis, Minnesota

"Polaris Industries is a lean, entrepreneurial, aggressive manufacturer of high quality consumer durable products. It is the lowest cost producer in snowmobiles, and one of the lowest in all-terrain utility vehicles. It is non-union and prides itself on excellent communications with its employees."

COMPANY:

Industry: Consumer Recreational/Utility Vehicles
Designs, engineers, manufactures and markets recreational and utility vehicles
Markets its vehicles, related parts, accessories and clothing through a network of 1500 dealers and 8 distributors nationally and internationally
A Master Limited Partnership with over 15,000 shareholders, traded on the American Stock Exchange
Total revenues for 1990: \$296 million
Over 1000 employees
Founded 1954

PERSONAL:

Joined Textron Inc. in 1972 as Assistant to the President, and became president of the Polaris E-Z-Go Division in 1980, until the company's management group purchased Polaris in a leveraged buyout in 1981
Member, American Business Conference Capital Formation Task Force; Walker Art Center; Young President's Organization
Education: B.S., U.S. Naval Academy, 1966; M.B.A., Harvard Business School, 1972

"The most unique characteristic of our company is that we compete very successfully against the major Japanese consumer companies: Honda, Yamaha, Kawasaki, and Suzuki. In addition, we compete against one large Canadian manufacturer and one smaller U.S. company."

Our major competitors are much larger, billion dollar companies, yet our market share over the past five years has more than doubled in snowmobiles and has gone from zero to nearly 10 percent in all-terrain vehicles in three years. Polaris is the world's largest manufacturer of snowmobiles and the U.S.'s largest manufacturer of ATVs. We place a great deal of emphasis on quality, cost reductions, communications, flexibility and quick, effective decision-making."



American Business Conference

ABC 100

C. ANGUS WURTELE

Chairman & C.E.O.
The Valspar Corporation
Minneapolis, Minnesota

"Valspar Corporation is a focused coating company that has grown rapidly through acquisition."

COMPANY:

Industry: Industrial-Paint and Related Coatings
Manufacturer of paints and related coatings
Products include: latex and oil base paints, stains and resins, varnishes and coatings, emulsions, industrial maintenance
One of the five largest domestic manufacturers of paints
20 manufacturing plants plus warehouse facilities located throughout the U.S. and Canada
Public company which operates in domestic and international markets
Total revenues for 1990: \$571 million
2,593 employees
Founded 1806

PERSONAL:

Boards: Donaldson Company, General Mills Inc., National Paints and Coatings Association, Advisory Council of the Graduate School of Business, Stanford University, Northwestern National Life Insurance Company, The Bush Foundation
Member, American Business Conference Japan Task Force
Education: B.A., Yale University; M.B.A., Stanford Business School

"Mid-sized companies must maintain competitiveness with multinational companies not by emulating them but by being more flexible and reacting more quickly to changing opportunities."