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REMARKS OF WILLIAM J. CASEY

DIRECTOR OF CENTRAL INTELLIGENCE

AT THE

CORPORATION DINNER

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TECHNOLOGICAL SWEEPSTAKES

*mind in the
industry*

I am pleased to have this opportunity to speak to this distinguished audience associated as teachers, learners and friends and supporters of Polytechnic. I have long admired the leadership and the faculty at Polytech and the significance of their contribution to so many dimensions of our society. After a few months as Director of Central Intelligence, I am more than ever impressed by the importance of Polytech's work to the future security and prosperity of our country.

at 12

In my new job, I have found that the CIA, though popularly perceived as a spy service, is really a great center of scholarship and research, with as many Doctors and Masters in every kind of art and science as any university campus. It has produced a triumph of technology, stretching from the depths of the oceans to the limits of outer space. Using photography, electronics, acoustics and other technological marvels, we learn things totally hidden on the other side of the world. In the SALT debate, for example, Americans openly discussed the details of Soviet missiles. This information is held most secret in the Soviet Union, but is revealed in fulsome detail by our intelligence systems. Our national security and our hope for arms control and peace depend on scholarly assessment and interpretation of the staggering array of information, the veritable Niagara of facts which modern technology can reach out to gather from the four corners of the globe. And the human talent to make all this possible depends on the kind of work done at Polytech.

In a very real way, technology holds the key to virtually all the public problems that confront us daily in our work, or in the newspapers we read -- inflation, jobs, energy, in our ability to pay our way in the world.

development with all the other things, and the development of the nation

That's what I propose to talk to you about this evening. Our country's technology-intensive industries are the cutting edge of our economy and the basis from which we draw much of our military capability. They depend on highly trained personnel, substantial investment in R&D and are characterized by a rapidly changing competitive environment. They need sustained nourishment from Polytech and it's counterparts around our land.

development

The influence of these industries on our economy is enormous. They employ hundreds of thousands of Americans. They are major contributors to our balance of payments. More importantly, these industries offer the greatest hope for fast growth, creation of new jobs and a general enhancement of U.S. economic strength.

development

We face serious competition from foreign producers in technology-intensive industries. Other industrial countries are way ahead of us in developing policies to increase the international competitiveness of their high-technology industries. Japan, West Germany, and many other countries have national policies designed to shift their industrial bases to knowledge-intensive activities. The sad fact is that the United States is actually losing its leadership position in some of the most important industries...and that's a situation with very real

political, military, and economic implications.

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Since at least World War II, our aerospace industry has been one of the most sophisticated -- an industry in which the U.S. has been highly competitive. It has been one of the greatest positive contributors to the U.S. balance of payments. In 1979, its export surplus amounted to ten billion dollars.

du de
However, our leadership in aviation has been steadily declining. While in the mid-1960's we commanded as much as 90 percent of the free world's market for large transport aircraft, we now enjoy only 80 percent. In wide-bodied aircraft alone for 1980, the European Airbus consortium gained 34 percent of a market which we owned only five years earlier. Europe is now on a par technically with the United States in many important areas of aircraft development. In addition, European governments can often arrange for more attractive financing than U.S. firms.

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The aircraft industry is also consolidated internationally. The cost of developing new aircraft increases steadily and more and more programs require cooperative efforts by companies located in different countries. As a result of this international cooperation, we no longer see an aircraft of exclusive U.S. origin, but an aircraft with parts from Japan, Italy and elsewhere.

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In terms of technological sophistication, our semi-conductor industry has been unexcelled -- until recently. Of the 14 pivotal innovations in this industry, 13 were of U.S. and one of West German origin. This industry's products have been critical to the development

of computers, telecommunications, sophisticated military equipment and a great number of other products. The full range of applications and potential impact of this industry is just beginning to be recognized.

and
In recent years, however, this industry has been subject to intense foreign competition, mostly from Japan. The Japanese semi-conductor industry has captured only 5 to 6 percent of the total U.S. market. But, in some of the newest product areas, such as the 16K RAM, they have captured about 40 percent of the U.S. market. And, they claim to have received over 60 percent of the orders last year for the newest memory computer -- the 64K RAM. This is a much larger share than they have captured in the U.S. automobile market. In some semi-conductor products, Japanese manufacturers are already showing signs of becoming world leaders -- surpassing U.S. capabilities -- and largely on the basis of technology originally obtained from the United States.

and
Another technologically sophisticated field is production technology which includes robots and machine tools. The U.S., once the world leader, has become a net importer of machine tools -- about \$500 million dollars worth in 1979, and \$600 million in 1980. Japanese firms fill orders for machine tools twice as fast as their American counterparts.

and
Soon we will all be seeing the arrival of robots -- and with them automation of the automobile, metal working, and many other basic industries. U.S. inventors were the first to conceive of the industrial robot. Yet today, when major U.S. Corporations like General Motors need thousands of robots, they must order them from Japan or Europe.

While U.S. robot manufacturers can only make upwards of a few 10's of robots per month, one Japanese manufacturer is already using robots to make robots!

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Many reasons can be advanced for the slippage of U.S. firms in world markets. Surely the general productivity problem is one. So too the inexorable workings of the principle of comparative advantage play a role. The United States now has a comparative advantage in agriculture, services, and, though the advantage is slipping, in specialized manufactures such as wide-bodied aircraft and computers. We know that Japan is taking dead aim, through government-subsidized research and government-influenced consolidations to create more powerful competitors to take on IBM in the world market. At the same time our antitrust policy, ignoring the fact that we must compete in a global market, seeks to break up IBM and many antitrust rules make it difficult for U.S. companies to rearrange their affairs in a way that reduces costs and increases productivity in order to permit them to compete both here and abroad on equal terms with their foreign competitors.

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In this world market we face government-subsidized and government-financed competition. In industry after industry, in country after country, there is no need for the competitors of U.S. firms to diversify or to merge to acquire a stable source of capital because those competitors are owned by their government and thus have a direct claim on the public treasury. In this open world the conglomerate merger has become an important means of competition against state-owned and state-subsidized companies.

Not enough American firms adapt their pricing and other managerial policies to the fact of a world marketplace. Our Japanese competitors set their marketing and pricing policies in terms of a global market. The domestic market is the base which permits them to price to get established and maximize their share of the larger world market. Too many American firms plan and price in terms of the domestic market and view the foreign market as an add on to be picked up later. By that time they are likely to find Japanese firms well established in the world market competing vigorously in the American market from a worldwide base.

As we lose market position in basic industry, it becomes more vital to stay ahead in the technological sweepstakes. U.S. industry still puts a greater share of its production into research and development than Japanese and German industry. But we lag in recognizing the world marketplace in technology and in exploiting foreign technology imported in "naked form" of patents and licenses and knowhow. The purchase of foreign technology in "naked" form immensely speeds up the importing industry's technological progress and usually at only a fraction of the cost of developing similar indigenous technology. Based on receipts and payments of royalties and license fees it appears that throughout the 1960's and 1970's our industry sold from 7 to 10 times as much advanced technology in "naked" form as it bought. Most of our industry's sales are voluntary, but at least 100 or so major companies are under court decrees to sell their technology to foreigners mandatorily -- as a result of our antitrust laws and regulations.

Both German and Japanese policies in selling and buying advanced technology have been just about the reverse of our industry's policy, with the Germans buying three times as much as they sell and the Japanese six times as much.

Neither Germany nor Japan (nor any other foreign country I know of) has a policy of requiring its firms to license their technology to foreigners mandatorily.

The stakes in technological race are enormous.

Loss of leadership in key industries like semi-conductors and machine tools can also lead to loss of competitiveness in other areas. Our ability to stay competitive in automobiles and aircraft can depend heavily on how strong our semi-conductor and machine tool industries are.

There are large political consequences. Losing ground in "cutting edge" technology would have a negative effect on important U.S. relations with other countries.

Technology resources can also give us important leverage in our diplomatic goals. For example, the establishment of cooperative technology programs with other countries -- can lead to better use of limited resources and closer political ties. U.S. technological assistance to developing countries can help achieve political objectives. Technological assistance can also give us access to energy and scarce materials. Technology can develop substitutes for mineral sources from which we could be cut off. Finally, keeping a strong lead in certain critical technologies can give the West a strong negotiating

lever in dealing with the USSR -- especially given the technological lag in the Soviet Union.

the USSR is already ahead

A loss of technological leadership in the U.S. military can be very serious. If we expect to have the best equipped armed forces, we've got to stay out ahead in technology. In a lot of areas, civil industry is setting the pace for technology developments...by contrast, in the past, a lot of important technologies got their start in special military programs. What this means is that the United States military is winding up more and more dependent on civil technology and if we don't keep up our lead, we may find ourselves dependent on foreign suppliers.]

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We've heard a lot about the transfer of critical technologies to the Soviet Union, like semi-conductors and computers -- which have both civil and military uses. That's a complex and sensitive subject. It's true that we are concerned about the control of certain technologies that could have direct military impact on the East-West balance of power. The Soviets are devoting enormous resources to upgrading their technology capability. But a major element in their technology strategy is the need to get their hands on Western developments -- legally or illegally. The Soviets carry on a very large worldwide effort to acquire technology by espionage and smuggling and this can be a matter of life or death in an age when a simple technological breakthrough -- lasers, directed energy -- can tip the balance of power worldwide.

In light of these serious economic, political, and military consequences, it's distressing to note a number of indicators that suggests

that we're in a decline. We've seen shifts in the balance of patents granted to foreign versus U.S. firms. We've seen very little growth in U.S. research and development investments as a percentage of GNP. On the other hand, other countries -- like Japan and Western European countries -- are scoring impressive gains in the R&D investment. The Soviet Union has showed a consistent rate of 3 percent of GNP invested in research and development since World War II. The U.S. is currently about 2 percent. Our investment in education is also declining relative to that of other countries. Since 1974³, the Japanese have been graduating more electrical engineers than the U.S. On a per-capita basis, the Japanese now have an almost 3 to 1 lead. At every level, the Japanese educational system is producing a generation of people which will be prepared to develop and participate in the ongoing technological revolution.

What is most disturbing is the decline in competitiveness in many of our technology-intensive industries vis-a-vis Japan, West Germany, and other industrialized countries. We have already seen dramatic changes in our trade picture for automobiles. Other industries may face a similar future. Now let's look at the industrial growth rate picture in the United States. It has declined in comparison with foreign industries. Our level of industrial research and development has shown little increase in real terms over the last decade. Right now, Japan is planning increased investments that could result in their surpassing the U.S. in total commercial research and development within a decade.

What else are foreign countries doing to compete more effectively? Other countries, especially Japan, have national strategies to enhance their overall technological and industrial strength. They have programs to stimulate key sectors recognized as important to their economy -- and to their international trade. For these countries, economic security is equated with national security -- in practice as well as in theory.

The technology strategies of other countries involve the coordination of government policies and maintenance of close government-industry relationships -- all meant to enhance industrial innovation and competitiveness in a variety of ways. These include incentives for investment in research and development, certain exemptions from antitrust laws, and protection for industries during their infancy.

Don't get me wrong -- we're not afraid of competition. Competition speeds up the process of innovation and raises levels of technological capability all over the world. Our job is to show that we can meet those competitive challenges -- and not by erecting trade barriers. We've got to make sure that our own governmental laws and regulations do not tie industry's hands but rather encourage it. Then we will do the job that we are capable of doing.

No major U.S. corporation can afford to be complacent. The foreign competition is aggressive and export-oriented. U.S. companies have got to adopt a global, long-range strategy. We ought to be putting less emphasis on short term profits and recognizing the fact that foreign firms -- especially in Japan -- have different business goals. Foreign

9 { firms fight hard for greater market share, for overall company growth, and long range corporate strength. To stay competitive, we've got to have better relationships between industry and government. And industry's got to make greater use of available technical resources -- especially in our universities.

at 142 We've got to know the impact that all of our government policies have on international industrial competition. We've got to have a complete review of tax policy, patent laws, antitrust enforcement, regulations and other measures -- particularly how they all affect U.S. interests in international competition.

at 143 A final point...the U.S. government has got to cooperate with all our overseas allies...as well as with U.S. industry...on technology-transfer policy. We've got to protect the technological strength of the West. The Soviets can't be allowed to play us off against our allies. At the same time, we've got to give American industry an equal opportunity to compete with companies in Europe and Japan.

at 144 We need to ask ourselves tough questions about where our economy and where our companies are headed, whether we're putting enough in R&D, what we can do to increase capital formation and create incentives for risk and initiatives and, above all, whether we're creating enough engineers and scientists, and entrepreneurs and promoters.

9 { How will the attrition of our computer and semi-conductor industry, under the impact of the drive the Japanese have mounted to capture this market, undermine our defense capability? How will it impact our

ability to make our way in the world through the manufacture of machinery and equipment which will be increasingly controlled and guided by micro-processors?

If the French, Germans and Japanese, and less developed countries like Korea and Brazil, convert more rapidly than the United States from fossil fuels to nuclear energy, how rapidly will lower power costs in those countries be converted into important competitive advantages in manufacturing costs? How will the instabilities in southern Africa on the one hand and seabed mining on the other affect the structure of our world mineral markets and impact our manufacturing industries?

Looking at the world more broadly, what do we see as we look around the world? We see a Soviet Union rapidly building its military strength as ours has been permitted to decline.

-- The U.S. falling behind in economic competitiveness as the Japanese and Germans give, invest and innovate more, and Koreans, Singapore, Taiwanese, Brazilians, Mexicans increasing their share of the world market as ours diminishes.

-- Political and economic instability in the Middle East, Africa, and Latin America where we get the fuel and minerals to keep our economy going.

Yet, there is reason to take heart. Here in the U.S., Congress has taken first action to revitalize and make our economy competitive again and restore our military strength and that will restore confidence

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around the world in our reliability. I believe the new tone has brought new vigor to our friends and new caution in those inclined to adventure in far off places.

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And I believe that as we support and strengthen institutions like Polytech they will sprout a new generation of scientists and engineers, entrepreneurs and managers who will probe and explore and develop the tiny worlds of bugs and chips, atomic particles, and the wide/wide world of space and communications, knowledge and systems to establish once again American leadership in technology and it's applications.

Thank you all.

Very much,

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I am pleased to have this opportunity to speak to this distinguished audience associated as teachers, learners and friends with the Polytechnic Institute of New York. I have long admired the leadership and the faculty at Polytech and the significance of their contribution to our society. After four months as Director of Central Intelligence, I am more than ever impressed by the importance of its work to the future security and prosperity of our country. What is popularly perceived as a spy service has become a great center of scholarship and research, with as many Doctors and Masters in every kind of art and science as any university campus. It has produced a triumph of technology, stretching from the depths of the oceans to the limits of outer space. Using photography, electronics, acoustics and other technological marvels, we learn things totally hidden on the other side of the world. In the SALT debate, for example, Americans openly discussed the details of the Soviet missiles. These are held most secret in the Soviet Union, but are revealed by our intelligence systems. Our national security and our hope of arms control depend on scholarly assessment and interpretation of the staggering array of information, the veritable Niagara of facts which modern technology generates. And the human talent to make all this possible depends on the kind of work done at Polytech.

In a very real way, technology holds the key to virtually all the public problems that confront us daily in our work, or in the

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newspapers we read -- inflation, jobs, energy, in our ability to pay our way in the world.

I would like to speak to you about the status of our country's technology-intensive industries. These industries are the cutting edge of our economy and the basis from which we draw much of our military capability. They depend on highly trained personnel, substantial investment in R&D and are characterized by a rapidly changing competitive environment.

The influence of these industries on our economy is enormous. They employ hundreds of thousands of Americans. They are major contributors to our balance of payments. More importantly, these industries offer the greatest hope for fast growth, creation of new jobs and a general enhancement of U.S. economic strength.

We will have to face serious competition from foreign producers in a lot of technology-intensive industries. Other developed countries -- especially Japan -- are actually way ahead of us in developing policies to increase the international competitiveness of their high-technology industries. Japan, West Germany, and many other countries have national policies designed to shift their industrial bases to knowledge-intensive activities. The sad fact^{is}/that the United States is actually losing its leadership position in some of the most important industries...and that's a situation with very real political, military, and economic implications.

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Let me describe some of the specific industries where the United States faces tough foreign competition. One of the most important is aerospace. Since at least World War II, this industry has been one of the most sophisticated -- an industry in which the U.S. has been highly competitive vis-a-vis all other countries. It also has been one of the greatest positive contributors to the U.S. balance of payments. In 1979, its export surplus amounted to ten billion dollars.

—However, our leadership in this industry has been steadily declining. While in the mid-1960's we commanded as much as 90 percent of the free world's market for large transport aircraft, we now enjoy only 80 percent. In wide-bodied aircraft alone for 1980, the European Airbus consortium gained 34 percent of the world market for that class of aircraft. Europe is on a par technically with the United States in many important areas of aircraft development. In addition, European governments can often arrange for more attractive financing than U.S. firms.

The aircraft industry is also consolidating internationally. The cost of developing new aircraft increases steadily and more and more programs require cooperative efforts by companies located in different countries. As a result of this international cooperation, we no longer see an aircraft of exclusive U.S. origin, but an aircraft with parts from Japan, Italy and elsewhere.

In terms of technological sophistication, our semi-conductor industry has been unexcelled -- until recently. Of the 14 pivotal innovations in this industry, 13 were of U.S. and one of West German origin. This industry's products have been critical to the development of computers,

telecommunications, sophisticated military equipment and a great number of other products. The full range of applications and potential impact of this industry is just beginning to be recognized.

In recent years, however, this industry has been subject to intense foreign competition, mostly from Japan. The Japanese semi-conductor industry has captured only 5 to 6 percent of the total U.S. market. But, in some of the newest product areas, such as the 16K RAM, they have captured about 40 percent of the U.S. market. And, they claim to have received over 60 percent of the orders last year for the newest memory computer -- the 64K RAM. This is a much larger share than they have captured in the U.S. automobile market. In some semi-conductor products, Japanese manufacturers are already showing signs of becoming world leaders -- surpassing U.S. capabilities -- and largely on the basis of technology originally obtained from the United States.

Another technologically sophisticated field is production technology which includes robots and machine tools. In this area also, the U.S. seems to be in trouble. The U.S. has become a net importer of machine tools -- about \$500 million dollars worth in 1979, and \$600 million in 1980. For their part, Japanese firms fill orders for machine tools twice as fast as their American counterparts.

Soon we will all be seeing the arrival of robots -- and with them automation of the automobile, metal working, and many other basic industries. U.S. inventors were the first to conceive of the industrial robot. Yet today, when major U.S. corporations like General Motors need thousands of robots, they must order them from Japan or Europe. While U.S. robot manufacturers can only make upwards of a few 10's of robots per month,

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one Japanese manufacturer is already using robots to make robots!

Many reasons can be advanced for the slippage of U.S. firms in world markets. Surely the general productivity problem is one. So too the inexorable workings of the principle of comparative advantage play a role. The United States now has a comparative advantage in agriculture, services, and, though the advantage is slipping, in specialized manufactures such as wide-bodied aircraft and computers. We know that Japan is taking dead aim, through government-subsidized research and government-influenced consolidations to create more powerful competitors to take on IBM in the world market. At the same time our antitrust policy, ignoring the reality of a world market, seeks to break up IBM and many antitrust rules make it difficult for U.S. companies to rearrange their affairs in a way that reduces costs and increases productivity in order to permit them to compete both here and abroad on equal terms with their foreign competitors.

In this world market we face government-subsidized and government-financed competition. In industry after industry, in country after country, there is no need for the competitors of U.S. firms to diversify or to merge to acquire a stable source of capital because those competitors are owned by their government and thus have a direct claim on the public treasury. In this open world the conglomerate merger has become an important means of competition against state-owned and state-subsidized companies.

Not enough American firms adapt their pricing and other managerial policies to the fact of a world marketplace. Our Japanese competitors set their marketing and pricing policies in terms of a global market. The domestic market is the base which permits them to price to get established and maximize their share of the larger world market. Too many American firms plan and price in terms of the domestic market and view the foreign market as an add-on to be picked up later. By that time they are likely to find Japanese firms well established in the world market competing vigorously in the American market from a worldwide base.

As we lose market position in basic industry, it becomes more vital to stay ahead in the technological sweepstakes. U.S. industry still puts a greater share of its production into research and development than Japanese and Germany industry. But we lag in recognizing that the world marketplace in technology and exploiting foreign technology imported in "naked form" of patents and licenses and know how. The use of advanced foreign technology in "naked" form immensely speeds up the importing industry's technological progress and usually at only a fraction of the cost of developing similar endogenous technology. The more voluminous are an industry's imports of such technology the faster will be its growth of international competitiveness. Conversely, the greater a manufacturing industry's sales of advanced technology in naked form the less competitive it is likely to become once the transferred technology is put to use abroad. Based on receipts and payments of royalties and license fees it appears that throughout the 1960's and 1970's our industry sold from 7 to 10 times as much advanced technology in "naked" form as it bought. Most of our industry's sales are voluntary, but at least 100 or so major

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companies are under court decrees to sell their technology to foreigners mandatorily -- as a result of our antitrust laws and regulations.

Both German and Japanese policies in selling and buying advanced technology have been just about the reverse of our industry's policy, with the Germans buying three times as much as they sell and the Japanese six times as much.

In the 1960's Japan, in turn, was importing some 15 times as much of such technology as it was selling, and in the 1970's about six times as much. In 1977 the Japanese industry's outlays for such technology amounted to \$1.3 billion and receipts to \$204 million.

Neither Germany nor Japan (nor any other foreign country I know of) has a policy of requiring its firms to license their technology to foreigners mandatorily.

The stakes in the technological race are enormous. The most obvious results of a loss in technological leadership are economic. Clearly, we'll see adverse changes in the balance of trade for manufactured and semi-finished goods. For example, we might even lose our global leadership in computers in the 1980's. Foreign competition is likely to cut the U.S. share of the total world market. The results are...reduced earnings, fewer jobs created... and a decline in yet another area of U.S. leadership.

Loss of leadership in key industries like semi-conductors and machine tools can also lead to loss of competitiveness in other areas. Our ability to stay competitive in automobiles and aircraft can depend heavily on how strong our semi-conductor and machine tool industries are.

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We're also talking about political consequences. Losing ground in "cutting edge" technology would have a negative effect on important U.S. relations with other countries.

Technology resources can also give us important leverage in our diplomatic goals. For example, the establishment of cooperative technology programs with other countries -- can lead to better use of limited resources and closer political ties. U.S. technological assistance to developing countries can help achieve political objectives. Technological assistance can also give us access to energy and scarce materials. Finally, keeping a strong lead in certain critical technologies can give the West a strong negotiating lever in dealing with the USSR -- especially given the technological lag in the Soviet Union.

A loss of technological leadership in the U.S. military can be very serious. If we expect to have the best equipped armed forces, we've got to stay out ahead in technology. In a lot of areas, civil industry is setting the pace for technology developments...by contrast, in the past, a lot of important technologies got their start in special military programs. What this means is that the United States military is winding up more and more dependent on civil technology and if we don't keep up our lead, we may find ourselves having to turn to foreign suppliers.

We've heard a lot about the transfer of critical technologies to the Soviet Union, like semi-conductors and computers -- which have both civil and military uses. That's a complex and sensitive subject and I'd like to try to explain what's happening. It's true that we are concerned about the control of certain technologies that could have direct military impact

on the East-West balance of power. The Soviets are devoting enormous resources to upgrading their technological capability. But a major element in their technology strategy is the need to get their hands on Western developments -- legally or illegally so they still need our own research and development. We've got to also remember that developing countries and even terrorist groups need our technology, too. So it pays to keep our edge so that we can still have some control over who gets the products of our expertise.

In light of the serious economic, political, and military consequences I've been talking about, it's distressing to note that our national technological strength seems to be declining. We're seeing a number of indicators that suggest that we're in a decline. We've seen shifts in the balance of patents granted to foreign versus U.S. firms. We've seen very little growth in U.S. research and development investments as a percentage of GNP. On the other hand, other countries -- like Japan -- are scoring impressive gains in investment. The Soviet Union has showed a consistent rate of 3 percent of GNP invested in research and development since World War II. The U.S. is currently about 2 percent. Our investment in education is also declining relative to that of other countries. Since 1973, the Japanese have been graduating more electrical engineers than the U.S. On a per-capita basis, the Japanese now have an almost 3 to 1 lead. At every level, the Japanese educational system is producing a generation of people which will be prepared to develop and participate in the ongoing technological revolution.

What is most disturbing is the decline in competitiveness in many of our technology-intensive industries vis-a-vis Japan, West Germany, and other industrialized countries. We have already seen dramatic changes in our trade picture for automobiles. Other industries may face a similar future. Now let's look at the industrial growth rate picture in the United States. It has declined in comparison with foreign industries. Our level of industrial research and development has shown little increase in real terms over the last decade. Right now, Japan is planning increased investments that could result in their surpassing the U.S. in total commercial research and development within a decade. They might even make it.

What else are foreign countries doing to compete more effectively? Other countries, especially Japan, have national strategies to enhance their overall technological and industrial strength. They have programs to stimulate key sectors recognized as important to their economy -- and to their international trade. For these countries, economic security is equated with national security -- in practice as well as in theory.

The technology strategies of these countries involve the coordination of government policies and maintenance of close government-industry relationships -- all meant to enhance industrial innovation and competitiveness in a variety of ways. These include incentives for investment in research and development, certain exemptions from antitrust laws, and protection for industries during their infancy.

Don't get me wrong -- we're not afraid of competition. If you think about it, competition actually provides opportunities for cooperation and mutual benefits. Competition speeds up the process of innovation and

raises levels of technological capability all over the world. Our job is to show that we can meet those competitive challenges -- and not by erecting trade barriers. We've got to make sure that our own governmental laws and regulations do not tie industry's hands but rather encourage it. Then we will do the job that we are capable of doing.

No major U.S. corporation can afford to be complacent. The foreign competition is aggressive and export-oriented. U.S. companies have got to adopt a global, long-range strategy. We ought to be putting less emphasis on short term profits and recognizing the fact that foreign firms -- especially in Japan -- have different business goals. Foreign firms fight hard for greater market share, for overall company growth, and long range corporate strength. To stay competitive, we've got to have better relationships between industry and government. And industry's got to make greater use of available technical resources -- especially in our universities.

We've got to know the impact that all of our government policies have on international industrial competition. We've got to have a complete review of tax policy, patent laws, antitrust enforcement, regulations and other measures -- particularly how they all affect U.S. interests in international competition.

A final point...the U.S. government has got to cooperate with all our overseas allies...as well as with U.S. industry...on technology-transfer policy. We've got to protect the technological strength of the West. The Soviets can't be allowed to play us off against our allies. At the same time, we've got to give American industry an equal opportunity to compete with companies in Europe and Japan.

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We need to ask ourselves tough questions about where our economy and where our companies are headed.

How will the attrition of our computer and semi-conductor industry, under the impact of the drive the Japanese have mounted to capture this market, undermine our defense capability? How will it impact our ability to make our way in the world through the manufacture of machinery and equipment which will be increasingly controlled and guided by micro-processors?

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Looking at the world more broadly, what do we see as we look around the world? We see a Soviet Union rapidly building its military strength as ours has been permitted to decline.

-- The U.S. falling behind in economic competitiveness as the Japanese and Germans give, invest and innovate more, and Koreans, Singapore, Taiwanese, Brazilians, Mexicans increasing their share of the world market as ours diminishes.

-- Political and economic instability in the Middle East, Africa and Latin America where we get the fuel and minerals to keep our economy going.

Yet, there is reason to take heart. Here in the U.S., Congress has taken first action to revitalize and make our economy competitive again and restore our military strength and that will restore confidence around the world in our reliability. I believe the new tone has brought new vigor to our friends and new caution in those inclined to adventure in far off places.