Directed-energy technology unique path to U.S. recovery

by Christina Nelson Huth

President Reagan's commitment to build defensive directed-energy beam weapons could provide the basis for an economic recovery comparable to that of World War II, according to a computer-based economic study just released by *Executive Intelligence Review*. The results of the *EIR* study will be featured in presentations to over 40 conferences scheduled for the months of May and June across the United States and sponsored by the National Democratic Policy Committee.

The *EIR* study calculates the effect of a crash investment program in known and test industrial methods associated with directed-energy technologies, including laser machining, laser welding, laser isotope separation, and plasma metallurgy.

The U.S. economy could:

1) reach a 25 percent per annum growth rate within five years,

2) add 4 million jobs per year, including 2 million in basic industry,

3) double its industrial productivity in ten years,

4) eliminate its trade deficit within two years,

5) raise per capita income by 5 percent per year, and

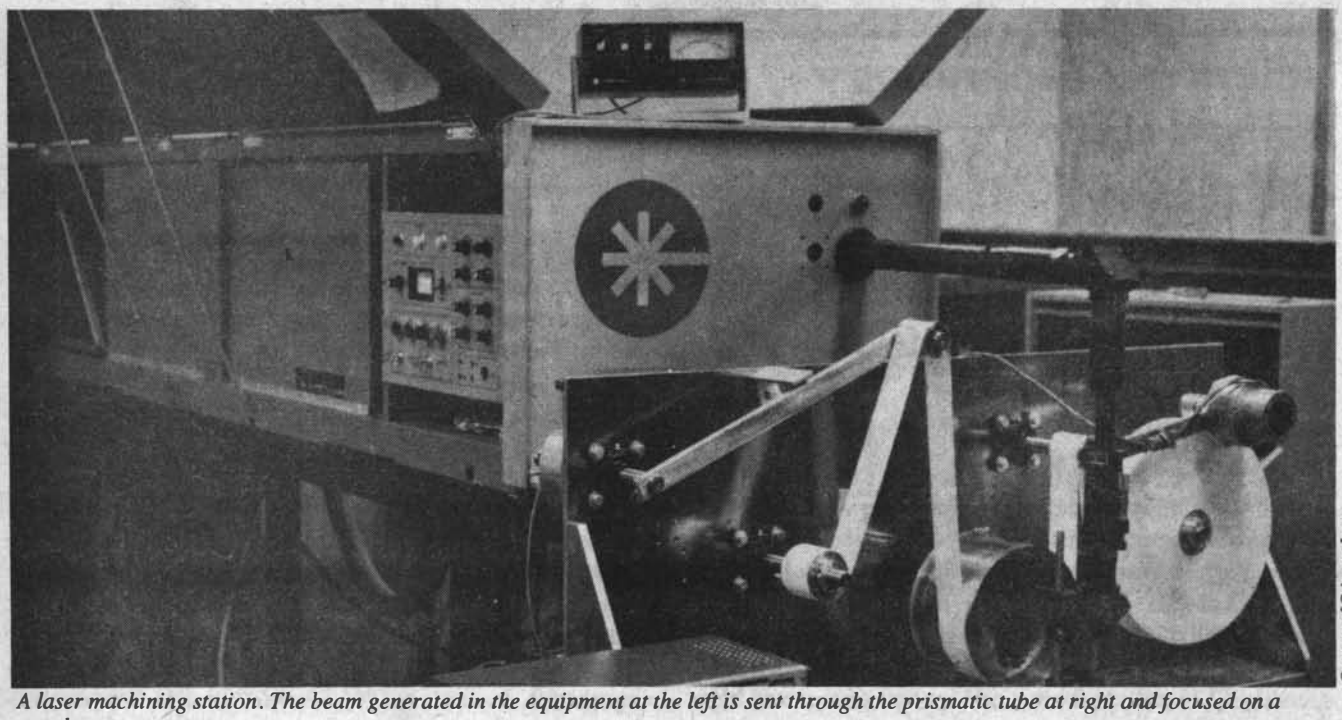
6) accomodate a much higher level of military spending than the President has proposed, if the technological revolution implicit in beam-weapons technologies is applied with "World War II" methods of brute-force investment and directed credit.

The study continues: "Of course, such productivity estimates, laboriously as they were acquired and calculated, are merely 'indicators' of what might be expected. The World War II experience and other examples of rapid productivity growth show that thousands of subsidiary inventions, transformations in the configuration of the production process, substitution of processes and materials to accomodate the full scope of the new technologies, and so forth, are required to make the operation work."

The study was conducted using the LaRouche-Riemann computer model of the American economy, in a special version constructed for the simulation. In its forecasting application, the LaRouche-Riemann model has accurately forecast the behavior of the economy for the past 14 quarters.

According to a summary released prior to publication of the full study, "The same *physics of coherent radiation* that apply to America's defense will make metallurgy, machining, welding, and other basic components of industrial activity as different from what we now have as the modern power loom differs from 18th century weaving. Much has been argued for the impact of postwar technological advance on communications and data-processing, to the point that the ascendance of the 'information industries' over 'declining basic industries' has become a point of dogma. This is now shown irrefutably to be nonsense. What occurred, from the scientific and engineering standpoint, in the electronics field represented a beginners' project relative to what is about to occur in basic industry.

"First, the known techniques of laser-based machining, welding, alloying, cladding, and surface treatment, as employed in commercial-prototype versions, are capable of reducing the social cost of metalworking to a small quantity. America's agricultural revolution has made the social cost of food the smallest in the world; now we are capable of making the social cost of producing automobiles, machine tools, boilers, cranes, locomotives, turbines, and structural steel a comparably small sum.



Courtesy of Coherent Laser

A laser machining station. The beam generated in the equipment at the left is sent through the prismatic tube at right and focused on a metal part.

"A combination of lasing and computer-based automation techniques can accomplish for metal-working what the computer accomplished for data-processing, but with a fundamental difference: the basic capital-goods sector of the economy 'multiplies' the activity of all other sectors. This principle is no different from what Leibniz or Alexander Hamilton meant by the term, 'artificial labor,' i.e., that the effectiveness of the single goods-producing worker is multiplied by the amount of mechanical labor he bring to bear on the production process.

"In the computer-based simulation now concluded, the physical growth rate of the economy ceases to be constrained by previous factors after five years of a 'crash' investment program in known laser technologies, accompanied by conversion of the steel sector to the super-efficient plasma steel process now in prototype phase. The growth rates achieved are comparable to the World War II period, a peak growth rate of 26 percent per annum.

A massive growth in productivity

The study continues: "The rate of productivity growth reaches 16 percent per annum in the fifth year of the program, as the first generation of new technologies becomes available on a mass scale; after this, the growth rate would depend on what new productivities are introduced through technologies known but not yet in commercial-prototype version.

"The productivity assumptions introduced were held to the extreme conservative side of the scale:

"1)That investment in laser machining, welding, surface treatment, alloying, cladding, and related operations could replace approximately half of industrial procedures in the capital-goods producing industries, and could result in productivity increases of 300 percent to 500 percent as the new technologies were mastered. These estimates were derived from the work of laser-manufacturing consultants, and are corroborated by published results of military testing facilities.

"2)That investment in plasma steel-making and other metallurgy could at least double the productivity of the metals-producing sector over a decade. Present engineering designs for large-scale plants suggest a productivity rise closer to 1000 percent than merely 100 percent. This estimate is based on interviews with the designers of the plasma steel process and a reading of designs and cost-estimates for prototype facilities not yet in operation."

Several striking conclusions emerge from the study:

"1) Until the introduction of magnetohydrodynamic (MHD) energy production applying first to coal, and later to nuclear fusion and fission power, the new technologies must drag around an enormous burden behind them: electric power infrastructure built according to relatively inefficient methods."

"2) The electric-power constraint makes the traversal of the first four years of the program extremely difficult, with virtually no margin for error. Investments may be made in nothing other than primary capital goods and electrical power production, both of which have a payoff of only 2 to 5 years; the remainder of the economy must live off its existing capital stock, depleted as it may be, for the first three years. This permits a substantial growth in employment—a starting rate of increase of productivity employment of about 2 million goods-producing jobs per year, almost half of which will be in construction industries."