

# America's Space Mission: Youth's Next Frontier

America's space sector will play a decisive role in shifting 5% of the U.S. labor force into research and development. As specified by LaRouche, this is the key to increasing the productivity of the entire labor force.

Increases in productivity come directly, only, from improvements in technology derived from fundamental scientific discoveries; the higher the rate you convert fundamental physical discoveries into practice, the greater the rate of increase of productivity per capita of population, and per square kilometer of area.

—Lyndon LaRouche,  
September 2, 2000 [speech](#)

We are faced with an extraordinary challenge: how to address the immediate needs of our own and endangered populations around the world, while simultaneously beginning the transformation of national economies to higher platforms of economic activity. The concept for meeting that challenge is located in the following by LaRouche:

Mankind's existence is based on the fact that mankind is the only species of which we know, which has the willful power to increase the energy-flux-density of life as a whole, on our planet Earth, and beyond.

—Lyndon LaRouche  
September 30, 2011 [broadcast](#)

The multiplicity of crises which have swept the world since the outbreak of the COVID-19 pandemic points to failure of using our power to increase the energy-flux density of life as a whole on our planet. And, indeed, looking beyond the Earth, we see even greater threats, such as asteroid strikes and space weather. These common threats to the planet motivated Lyndon LaRouche to



*A community forum sponsored by the Schiller Institute, celebrating the 50th Anniversary of the Apollo 11 Moon landing, and in support of the current Artemis Moon-Mars program, Houston, Texas, July 25, 2019.*

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call upon nations to join in a “Strategic Defense of Earth,” to cooperate in the frontier areas of space exploration and thermonuclear fusion and to make the scientific and technological advances to defend the planet.

Such common aims of mankind have often been expressed by those men and women who have gone into space, as did Apollo 11 astronaut Michael Collins:

I really believe that if the political leaders of the world could see their planet from a distance of 100,000 miles their outlook could be fundamentally changed. That all-important border would be invisible, that noisy argument silenced. The tiny globe would continue to turn, serenely ignoring its subdivisions, presenting a unified facade that would cry out for unified understanding, for homogeneous treatment. The earth must become as it appears: blue and white, not capitalist or Communist; blue and white, not rich or poor; blue and white, not envious or envied.

—[Michael Collins](#),  
*Carrying the Fire: An Astronaut's  
Journeys*, 1974



AMPed NH/Desiree Crossley

*A student in Nashua Community College's precision machine tool teaching lab, Nashua, New Hampshire.*

The potential is there. At this very moment, leading nations, including the United States, Russia, China, India, and Japan, and the European Union and others, are on their way to the Moon and Mars—this year! We see that Mankind is in the process of building out, in both cooperative and competitive ways, the beginnings of an interplanetary space infrastructure platform for mankind.

In 2019, LaRouche PAC released a [pamphlet](#), *We Commit to the Moon-Mars Mission*, which develops in detail why a 50-year, international crash program for lunar industrialization and Helium-3 mining, the development of fusion-powered space flight, and Mars colonization will be the most important driver for the U.S. and global economies.

### **A Space CCC: Rebuilding a National Workforce of Rising Productivity**

With that mission in mind, now look at the potential for a dramatic increase in the participation of our workforce in the space program, with a special emphasis on the younger generation.

Just as President Kennedy's Apollo project transformed our economy in the 1960s, President Trump's Artemis project, with the stated goal of landing a man and a woman on the Moon by 2024 and developing the technologies to go to Mars and beyond, must become one of the key drivers for the reconfiguration of our workforce.

During the Apollo project mobilization of the 1960s, 35% of our workforce was produc-

tively employed (as opposed to 15% today). With 400,000 people working on the Apollo project, and 4.4% of our budget devoted to space (instead of 0.48% today), the economic return to our economy was estimated to be \$10 for every \$1 spent.

As then, a space program is where the nation's leaps in productivity and future lies, and unleashing it is the mission of Artemis, which must be fully transformed as the leading edge of a nation-building revival, vectored once again toward unparalleled rates of scientific and technological progress. The Artemis program can and must be fully conceptualized as a daring, multi-generational project to colonize the Moon and Mars.

Project Artemis is not only vital for the nation and the world as a whole, but it must become a critical component in rescuing our young people from the no-future, zero-growth, hedonistic culture of today. This is reflected in a 2007 National Research Council report which said,

Students need to believe that what they are doing will contribute to compelling (even transformational) scientific or engineering research and/or contribute to an important national goal such as space exploration. The goals need to be viewed as real and stable and as having the potential to contribute to important advances in a meritorious field.

What are we giving our younger generations today? The millennial generation (ages 23-38) numbers approximately 56 million, and the following Generation Z (just beginning to enter the workforce) numbers 32 mil-



U.S. Army Reserve/Corey Beal

*Equipment maintenance training in the U.S. Army Reserve.*

lion. That is about 90 million people, more than half of the workforce. Does anyone think that we are “firing their imaginations” with jobs in the hospitality “industry,” rideshare jobs, or growing and selling legalized pot?

Rebuilding and rapidly transforming the U.S. economy today, to fully participate in creating this “interplanetary space infrastructure platform” for tomorrow will require the development of today’s and tomorrow’s workforce in many creative ways:

We will increasingly be working with those aspects of nature that lie in the micro-physical and macro-physical domains, requiring an increasingly sophisticated reliance on instrumentation that extends beyond the reach of our five senses. This includes, emphatically, the study of living processes and their applications.

Our workforce will be working with much higher energy-flux densities which require increased precision and sophistication in instrumentation and machine tool design and applications. The concentration spans must dramatically increase. The recent statement by a Pentagon spokesman that the United States needs a “precision manufacturing capability” only indicates the scale of what is required.

As we know, the cultural level of our workforce, and the communities from which they are drawn, must be dramatically and joyfully “up-shifted,” to reflect a growing mastery and celebration of the creative capabilities in each person. This requires, as Lyndon and Helga LaRouche have developed, a conscious return to Classical cultural principles. These qualities will necessarily be reflected in the growth and development of our families and family life.

This requires that we mobilize the potential which exists in the young. We must “fire their imagination.”

### **First Tier**

The first tier of a modern day “Space CCC” can draw again on the model of the original Civilian Conservation Corps (CCC) program of the 1930s and early 1940s.

Looking back at the original CCC’s lifespan (1933–42), there are admirable aspects of the program which could be imitated today. The New Deal CCC effort put



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*A community college manufacturing lab in Houston, Texas, showing machine tools driven by computer numerical control (CNC).*

a total of 3 million young men—between the ages of 17 and 28—to work, over the years from 1933 to 1942. An average of 300,000 people per year went through the one-and-a-half-year program, with the peak reaching 500,000. This was approximately 5% of all young men in that age range. The enrollee’s family had to be receiving some form of government financial assistance to qualify. It became, at the time, the most popular government program by far.

Today, there are about 30 million Americans identified as between the age of 18 and 24 years of age. So a similar “first tier” program with a scope similar to that of the 1930s might enroll 600,000 a year. Because this time women will also be enrolled, *the program would encompass 1 million or more*. That would require between 5,000 and 6,000 campuses, with facilities, multiple skilled LEMs (what the CCC called “locally experienced men”) assigned to each facility, and 10-20,000 teachers, along with staff and logistics providers.

This time campuses could be urban as well as rural based, with significant educational and cultural components, and collaborate with community-based organizations. This “first tier” would play a vital part in building out a new national infrastructure platform for our nation, and participants can be expected to deploy as productive cadre in building up modern healthcare and food production systems in developing countries.

Many will also go on to become part of our advanced high-tech workforce.

As in the 1930s there are advantages to locating Space CCC campuses near work projects. Additional training and broader educational and cultural programs would occur at the facility or nearby. Otherwise, there is too much time wasted and attention spans lost. The initial mapping of prioritized infrastructure projects, urban and rural, will therefore be important, and the logistics then worked through for siting of campuses. Adequate housing on site, as well as flexible study and training/teaching facilities would be required, making use of now-vacant manufacturing facilities, urban shopping centers and military bases, vacated farms, facilities in rural areas, and so forth.

Clearly the creation of a new CCC today requires that the cultural programs be developed, initiating programs that infuse young men and women with Classical culture, sparking through beauty a passion for discovery and creation. This would optimally include choruses in every campus with maestros, concerts, traveling performances involving the recruitment of well-qualified theater groups, and scientist-pedagogues.

### **Second Tier and the Machine Tool Principle**

What we might call a higher, “second tier” within an overall Space CCC, would be organized, not around workforce campuses, as might less skilled jobs training, but immediately around advanced training centers, those that exist and new “manufacturing and innovation centers” to be built. The second tier would address the young men and women who already have, or soon will have, a high school education or GED, and are ready to think about their future in terms of a career and technical education. NASA’s in-house training programs could provide useful insights. These programs would overlap with and be federally coordinated with existing and expanded apprenticeship programs, which would also need continued federal support and to be further incentivized.

At the core of this is what Lyndon LaRouche calls the “machine tool principle.” In a July 1997 address to a Washington audience, Lyndon LaRouche said:



EIRNS/Brian Lantz

*Manually operated machine tools in a community college manufacturing lab in Houston, Texas.*

When you’re dealing with science, scientific discovery, when you discover an idea, you’ve got to prove it, haven’t you? You say, “I’ve discovered a solution to this problem.” Someone says, “Well, how can you prove it’s true, how can you prove it’s right? How can you prove it in nature?”

So, you construct what’s called an experiment. It’s called a crucial, or proof-of-principle, experiment, to prove that nature works the way your discovery says it works. That’s called a Machine-Tool Principle. Now, when you take the apparatus, which you used to construct that experiment, you walk into a guy who designs machine tools, or similar kinds of products. This guy, having seen your experimental device—he probably helped you build the experiment—now says, “Look, I can design a whole group of new kinds of products, and new kinds of machine tools, on the basis of this discovery which you demonstrated, by looking at your experiment, understanding your experiment, I can see how to build a whole new class of products and processes out of that...” And that’s the way it works. You combine the development of the mind, with the development of the products and processes, which the mind’s discovery of principle has devised. And that’s how you produce—that’s called scientific and technological progress.

Re-creating a base of skilled machinists is central to this.

What might our Moon/Mars Mission and the broader, renewed national manufacturing base require? There are currently 469,000 machinists working in the United States, according to the U.S. Labor Bureau of Statistics, for example, with a median income of \$45,750 (\$22 per hour). We are intending to bring back critical supply chains, build 21st Century infrastructure, and build up the high-tech manufacturing base of a U.S. “full set” economy. In the short term, if we were to *triple* this number of machinists needed for such efforts, what would that involve? This would require training an additional 800,000 motivated men and women in at least an initial two-year professional machinist program, over a decade at most. They would already need a high school education or GED, and have a serious interest before entering these programs. There would then be continued on-the-job training, and opportunities for additional certifications and advanced work.

If this initial “burst” effort to produce 800,000 young, new qualified machinists was to be completed within approximately a seven-plus-year period (for example), this would require approximately 125,000 students entering the program each year and successfully completing the program in two years. Multiply that by similar advanced programs for engineering techs, nurses, welders, and plumbers.

How do we recruit people to such jobs? One skilled

machinist and teacher explained that the biggest hurdle in getting students interested is convincing them that the work is not dirty, hot, and physically hard. Because people have the idea that this is like working as a car mechanic or otherwise working in a shed, this teacher’s community college program has been able to fill less than 50% of the available training program positions. But, once a student starts the program, he or she quickly get hooked by the process of learning the skills, problem solving, and creating.

This gets back to the national and international mission.

In galvanizing a full-stop Moon-Mars colonization effort, led by Presidents Donald Trump, Xi Jinping, Vladimir Putin, Prime Minister Modi and others, we will thus provide the missing ingredient to our global workforce quandary.

*There is no trade-off among space exploration, feeding the world, and ensuring healthcare for all of humanity!* What is required is *leaps in physical productivity*—waves of “spin-offs” propagating throughout the entire world economy. This in concert with optimistic waves of up-shift in the cultural life of our societies.

That is, inspiring all of our youth to become the newly upgraded workforce of skilled high-tech machinists and electricians—as well as engineers and scientists—that we require. We can, in accomplishing this, also inspire our parents and grandparents with newfound hope for our nation’s future and our place in the world.