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Author: Mr. David Vaccaro
Avascent, United States

Mr. Ian Christensen
Futron Corporation, United States
Mr. Joseph Fuller
Futron Corporation, United States

SPACE METRICS AS A TOOL FOR EVALUATING SOCIETAL RETURNS FROM SPACE INVESTMENT

Abstract

Space activity by nation-states, private enterprises, and civic associations produces tangible benefits for society. Measuring these benefits, however, can be elusive. Understanding the economic impacts of space activity —- whether in particular sectors, countries, or across national boundaries —- is a frequent challenge for policymakers, academics, and the space community as a whole. Yet economic metrics are essential to any serious discussion of competing space objectives: without them, questions of the relative strategic values and impacts of space activity remain largely matters of subjective opinion.

In order to provide a quantitave overlay to the major space activities underway globally in 2014, this paper will assess international space activity through a distinct analytic framework: namely, Futron's 2014 Space Competitiveness Index (SCI). The SCI is a unique framework that considers national space activity by evaluating 15 nations across more than 50 metrics spanning three dimensions: government policy and activity, human capital, and industrial base. By comparing and contrasting nations across a uniform basket of metrics, patterns in the relative strengths and weaknesses of different national space programs can be assessed. Beyond its diagnostic utility, this process is helpful in understanding which space policies and programs are more and less likely to maximize societal return on investment.

The paper will then address an important follow-up question: so what? How can decision-makers use quantitative information to pursue strategic goals? Through the lens of the structured SCI methodology examining national space competitiveness, this paper will discuss how decision makers can use economic metrics to enhance country-level space goals in the furtherance of societal benefits.