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The space economy in emerging space countries (3)

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ENHANCING SPACE COMPETITIVENESS: MEASURING PERFORMANCE, MAPPING HUMAN
CAPITAL, AND ALIGNING SPACE POLICY WITH ECONOMIC OUTCOMES

Abstract

National policymakers and industry leaders are increasingly challenged to align space policy with tangible rewards—whether new technological milestones, concrete financial results, measurable human capital benefits, or economic outcomes. Across international boundaries and boardrooms, there is more emphasis than ever on quantitative statistical analysis. Yet although the field of space economic metrics is emerging in response to these needs, it remains nascent. There is a lack of consensus on which metrics constitute the key indicators for measuring national space performance—and equally important, large variances in international data collection standards and practices.

Against this backdrop—and in this second year of the IAC’s new session on space economics—this paper identifies continuing data and knowledge gaps in an effort to develop a broader international consensus on several metric questions:

- Which space economic metrics constitute leading indicators?
- How should these metrics be defined?
- What are some ways forward toward best practices in transparent and thorough space data collection and reporting?

As part of the framework for this discussion, this paper discusses the latest updates to The Space Competitiveness Index (SCI), a set of quantitative, qualitative, and proxy indicators that aim to characterize the space landscape along three lines—government, human capital, and industry—using 60+ metrics in reference to ten or more leading space nations.

By examining the metrics for three sample nations, the paper demonstrates how the SCI can inform government and industry investment decisions, quantify international science and engineering human capital, map global space education graduates worldwide, and serve as a tool for ensuring alignment between space policy and spending decisions and outcomes.

The paper will conclude with a survey, designed to be released at subsequent IAC events, tabulating the opinion of space economic data users regarding these questions. The survey will also invite participants to contribute their own thoughts on optimal space metric methodologies, in order to advance development and dialogue regarding the expanding field of space economic metrics.