The Lower Tiers of the Space Transportation Industrial Base

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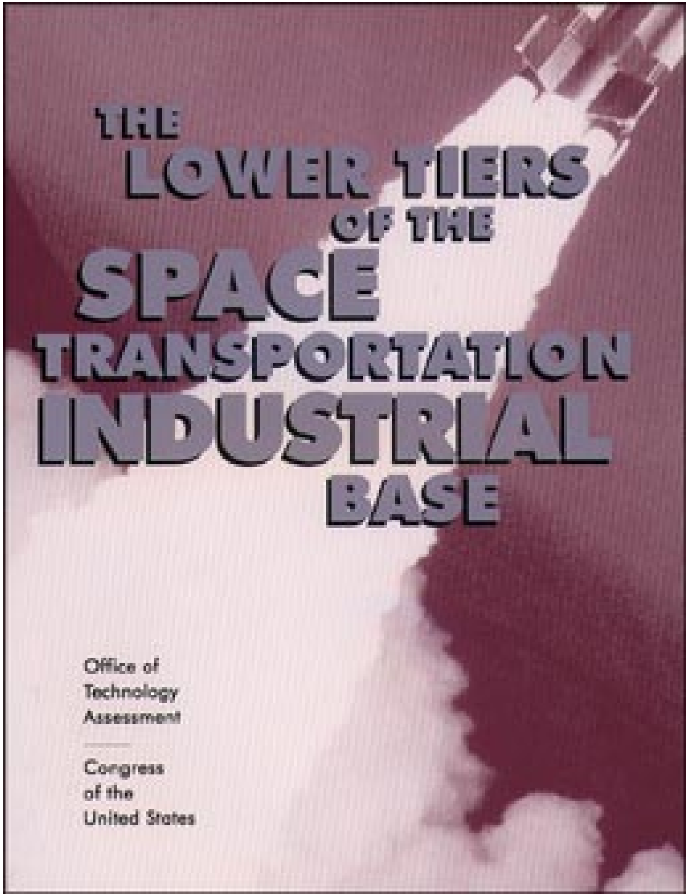

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Foreword

Current national space transportation policy, when it considers industry-related questions, is principally directed at, and influenced by, the industry's large prime contractors. Yet the industry is comprised of a much wider variety of firms. The U.S. space transportation industry includes large and small providers of subsystems, components, and materials in areas such as propulsion, avionics, guidance, and structures. For each dollar spent on the procurement of space transportation systems and services, roughly half flows down to second- and lower-tier supplier firms.

This background paper, prepared by the Office of Technology Assessment (OTA) for the House Committee on Science, examines the current status and future prospects of these critical, but often ignored, lower tiers. It is the second product of OTA's assessment of the U.S. space transportation technology and industrial base. It also represents the final OTA report on space technology policy. OTA will close its doors on September 29, 1995.

This background paper was prompted by a workshop held at OTA in early March 1995, at which a small group, representing a broad cross-section of lower-tier firms, discussed their views of the space transportation industry. Participants at the workshop, and other members of the lower tiers contacted subsequently, conveyed profound pessimism about the future. Most participants saw little hope for future expansion in the space transportation business; there was almost uniform skepticism about the government's commitment to build new space transportation systems; and most expressed deep concern about the continuing erosion of human capital and know-how throughout the lower tiers.

The views expressed by the lower-tier firms, however, are not universal. Some prime contractors are more optimistic about the continuing availability of lower-tier capabilities to fill their needs, or of being able to produce needed items in house. One important Department of Defense (DOD) study concluded that the current industrial environment among the lower tiers can be managed by its prime contractors in a manner that will preserve the capabilities of the lower tiers without incurring undue costs or schedule delays. OTA's analysis, both past and present, suggests that this is a valid argument in most cases, but some critical subsystems, components, and materials will require close monitoring. The risk of disrupting government and commercial space missions as a result of interruptions in the supply of critical lower-tier products is real.

In undertaking this effort, OTA sought the contributions of a wide spectrum of knowledgeable individuals and organizations. OTA gratefully acknowledges their contributions of time and intellectual effort. OTA also appreciates the help of both DOD and the National Aeronautics and Space Administration. As with all OTA reports, the content of this background paper is the sole responsibility of OTA and does not necessarily represent the views of our advisors or reviewers.

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Note: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the report and the accuracy of its contents.

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