

Response to Questions from Senate Committee on Commerce, Science & Transportation re the COVID-19 Impacts on the Commercial Space Industry

How have COVID-19 pandemic and mitigation efforts impacted the commercial space sector, including efforts in support of U.S. government civil space missions?

CSF surveyed our entire membership a few weeks ago and obtained this data:

1. Fortunately, only 20% of our members had one or more employees who became infected or was required to quarantine because of an infected family member.
2. However, the pandemic and response impacted many CSF member companies' activities. 25% had to curtail manufacturing or similar product/service-type operations. One-third had to delay R&D efforts to develop new products/services. And fully half curtailed some or most of their business operations (marketing, human resources, etc...).
3. As states began to shut down non-essential industries, not all state and local governments recognized the Department of Homeland Security's recognition of space launch and spacecraft manufacturing as essential national industries during an emergency. This cost some firms, for example in California, some extra time to secure the right to remain open.
4. The pandemic and response also impacted our members' external business environment: nearly half saw federal contracts/grants they were pursuing delayed. Over 40% of our members saw a decline in commercial revenue from existing private sector customers. Nearly half saw a decline in new commercial revenue as planned procurements were delayed/eliminated. Many saw delays in planned investments in their company.
5. Looking forward, our members were worried about these three impacts:
 - a. Reduced or slowed customer demand (from both public and private sector).
 - b. An apparently frozen private equity investment market, where nearly all investors are simply waiting to see how bad and how enduring the downturn will be before making final decisions about investing.
 - c. Direct impacts of the pandemic on company operations or those of suppliers/partners.

Based on this information, and other reports, it appears that the most important NASA programs involving commercial partnerships have avoided serious impacts, largely by prioritizing those efforts versus other programs. However, some ongoing procurements are being slowed, and many new initiatives postponed, particularly at NASA (because of nearly 100% teleworking by NASA's workforce), but also in business-to-business dealings. Finally, it's hard to know how much time and expense will be required to "catch up" on the lower priority tasks and business operations that were sidelined during the pandemic.

What impact have existing recovery efforts had on the stability and continued progress of America's commercial space enterprise?

Just over one-third of CSF members applied for the Paycheck Protection Program. Most of those not applying were not eligible. Only one-third of applicants received loans. One of the greatest problems our members found with the program (other than the small workforce ceiling) was the Small Business Administration's regulations regarding "affiliation" between an applicant and other companies.

Unfortunately, the SBA has chosen to view any company with an extant investment from a venture capital firm, which usually comes with some restrictions on the company's board of directors to prevent dilution, as directly linking the company with all the other companies the VC invested in. So, small startup firms well within the size limits of the SBA are treated like companies with many thousands of employees. As a dynamic and entrepreneurial industry, most CSF companies are investor-funded, instead of being publicly-traded or long-established firms with significant private credit resources, so PPP should have been more beneficial to us.

One recovery action taken in the CARES Act (Sec. 3610) was allowing government contractors to pay employees who could not work because of quarantine, limits on access to a NASA facility, or other restrictions during "shut down" periods. But this was done via making such payments "allowable charges" on typical FAR cost-based contracts. To our knowledge, no accommodation was made for similar COVID impacts on fixed-price producers of space goods and services or commercial development partnerships.

What actions has CSF taken to help address the COVID-19 pandemic and its impact on the commercial space industry?

CSF has actively supported our members and represented the commercial space industry to federal policymakers during these unprecedented circumstances. We have kept our members informed regarding the PPP and other CARES Act recovery programs, provided a regular channel between various executive branch agencies and our industry, and participating in a series of multi-association teleconferences with space agency officials. We have worked with other trade associations to strategize regarding the SBA's counterproductive application of its affiliation rules to PPP, and generated other recovery ideas at the request of legislative and executive branch policymakers.

CSF has held Town Halls and Webinars with the Air Force's Shawn Barnes, FAA Associate Administrator Wayne Monteith, Office of Space Commerce Director Kevin O'Connell, and the Space Force's Range of the Future Task Force. CSF staff have also participated in many media-organized virtual events to help advocate for our members.

We have continued regular policy review and advocacy work, most notably facilitating individual and crafting a group response for our small satellite industry members to the Federal Communications Committee regarding their new orbital debris rulemaking.

Finally, our leadership has increased our participation in both the National Space Council's User Advisory Group and the Federal Aviation Administration's Commercial Space Transportation Advisory Committee to help advise these groups on actions that would help our government preserve and build on progress made before the pandemic by the commercial space industry.

What actions could Congress take to help the commercial space industry?

First and foremost, policymakers should continue, and indeed seek to accelerate, the trend that began over 15 years ago of greater use of public-private partnerships to achieve important civil or military space capabilities. Commercial industry has proven itself with innovative orbital and suborbital launch and reentry capabilities, new spacecraft constellations and technologies in both telecommunications

and remote sensing, LEO commercialization breakthroughs, and now lunar and planetary exploration partnerships. There is no reason for any committee of congress to consider, let alone pass, authorization legislation that retreats from this progress and directs NASA to not pursue proven commercial partnerships as part of lunar exploration.

Second, policymakers should take further steps to incentivize employee retention in order to accelerate a strong recovery. While it is important to restructure two existing CARES Act initiatives (discussed below), the Administration and Congress must urgently address the pandemic's devastating impact on equity capital markets. Economic uncertainty about the timing, speed, and strength of recovery, as well as potential future waves of COVID-19 infection, have effectively frozen most equity investment markets. Commercial space companies are generally capital intensive and have long development times before revenue, so capital availability is critical.

A particularly effective way to solve this would be to link future recovery loan assistance to new private investments made before a near-term deadline, such as August 1, 2020. Loans could match the investment, with investor due diligence and speed of investor approval determining those who receive the loans.

Third, the Administration should change Federal Reserve guidelines for the Main Street Lending Facility (MSLF) – a financial vehicle targeted at small and medium sized businesses – to allow advanced manufacturing/technology companies and start-ups access to these critical loans. Current guidelines for the MSLF disqualify many small and medium-sized businesses – particularly those in start-up/R&D mode – that need additional capital to recover from the economic shutdown.

Fourth, the federal government should modify the existing PPP affiliation rules or craft another small business loan facility that rewards, instead of disallowing, significant external equity funding such as venture capital.

Fifth, even as industry continues to field new space launch and reentry capabilities, based largely on private investment, and both the Defense Department and civil R&D agencies have identified the value of plentiful, affordable, reliable, diverse and responsive access to space, the federal government provides no financial support for space transportation infrastructure. Both state and local governments and private industry are bearing the infrastructure funding burden entirely themselves, with no federal support. No federal transportation infrastructure initiative should be enacted without providing significant funds, i.e. at least \$100m/year to start, to match, on at least a 3 to 1 (or better) basis, ongoing private and non-federal government investments in space transportation infrastructure.

Finally, as states begin to reopen and companies begin to return to work, it is imperative it be done in a safe manner. Rigorous testing is one of the best ways to responsibly bring employees back into the workplace a safely work towards reopening businesses to a full capacity. The Federal Government should support companies who are taking care and precautions to protect their workforces by providing those state's hardest hit by COVID-19 funding for tax credits and grants to cover the costs of testing.

(CSF can provide white papers with more details on each of the above recommended actions.)