

GUEST ESSAY

How to Cross the Government's 'Valley of Death' and Fix How It Spends Billions on Stuff

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Ms. Eckholm was recently a fellow at Cornell Tech's Jacobs Urban Tech Hub and is an author of Pilot: New York City, a plan to reform how New York City procures new technology,

A very big ax may soon fall on the federal government.

Elon Musk and Vivek Ramaswamy will lead a new Department of Government Efficiency in Donald Trump's incoming administration. The two said they aim to cut at least \$500 billion from the federal budget and

that mass layoffs and “deleting” entire government agencies are on their agenda.

But there is another way their band of “small-government revolutionaries,” as a post from the planned department on Mr. Musk’s X platform put it, can save taxpayers a bundle in the long term while providing better services. The two should modernize how the government buys goods and services from private vendors, which receive roughly one in 10 dollars spent by the federal government. Too often, that money is spent on delivering last year’s or even the last century’s technology.

Mr. Musk and Mr. Ramaswamy said the federal government’s procurement processes are “badly broken” and have called for large-scale audits on contracts that “have gone unexamined for years.” The two are right, in one respect: Federal procurement is, for the most part, dominated by companies with long histories of doing work for the government.

What’s needed is structural reform to enable the government to buy from start-ups more effectively while maintaining good-governance principles of transparency and accountability. If it’s done right, the government can even use its purchasing power to spur inventions — an approach Mr. Musk should know well. Government demand helped create the commercial space industry, in which his company SpaceX now dominates.

The problem is that working with early-stage companies on novel solutions runs contrary to the layers of risk protection built into the government’s byzantine procurement processes. Recent experiments with procurement reform in California and New York are showing how the government can do a better job of supporting new ideas and keeping pace with technology, in fields such as artificial intelligence and climate change.

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First, a quick tutorial on how government contracting usually works:

Contractors compete for government business by responding to requests for proposals that outline the details of projects and products the government wants to buy. The government identifies the solution it is looking for, codified in a prescriptive set of performance requirements. Typically the winner is the vendor that meets the government's specifications at the lowest price. In choosing the winner, the government looks at a vendor's history of doing business with the government, tending to favor more established companies.

The process is ponderous. It can drag on for years, and by the time it concludes, the technology the government initially specified is often outdated — one reason government services always seem to be lagging. Start-ups that try to compete for government business often flounder while waiting for a decision, a phenomenon known as the valley of death, a tongue-in-cheek reference to the Defense Department's notoriously protracted procurement process.

How can Mr. Trump increase competition and get more companies on the other side of that valley?

It's worth studying NASA, which has access to a procurement tool kit different from most other federal agencies. Congress created the space agency in 1958, after the Soviets launched Sputnik, and authorized NASA to

“enter into and perform such contracts, leases, cooperative agreements or other transactions as may be necessary” to keep up with the space race. The agency was allowed to focus on the problem it was trying to solve (get America to the moon, for instance) rather than be prescriptive about how to get there.

Today this power is known as the other transaction authority and is typically used to structure technology competitions to draw in vendors new to government contracting. In recent years, the Defense Department has used the authority to work with newer military tech companies, and the authority was used in the early days of the Covid-19 pandemic to award contracts to companies attempting to develop vaccines. One of the winners was Moderna, a biotech start-up that had not introduced a product until the pandemic. Still, the other transaction authority remains a relatively niche procurement mechanism, only authorized by Congress for use in a limited number of agencies.

Variants of this procurement approach have started popping up in state and local governments across the country.

In 2018, California experienced a devastating wildfire season and was in search of a technology solution to help with early wildfire detection and prevention. To find creative fixes, the then newly elected governor, Gavin Newsom, turned away from the traditional request-for-proposals approach and instead asked for innovative ideas.

Under Mr. Newsom’s concept, the government identifies the problem it is trying to solve, then invites vendors to propose solutions. A pilot phase, in which the government can try multiple products, is built into the process. Then the state can decide which works best. This show-us-what-you’ve-got

approach can help level the playing field for newer companies. The thesis is that over time, that increased competition lowers prices and improves quality.

In the case of wildfire prediction and detection, the state received 131 responses from contractors and chose two to try out the next summer. (While state and local government procurement data is difficult to track, experts estimate that the average state and local government request for proposals receives only two to three responses.) The ideas included using topographic data to predict a wildfire's path and scanning live satellite imagery to identify fire outbreaks.

Amy Tong, the state's secretary of government operations, compared its approach to a "large-scale government bake-off" — a contest, in other words, among companies for California's business that would validate the best recipe for success. Six years later, the request for innovative ideas has become a key tool in the state's procurement process. California recently issued a set of requests soliciting artificial intelligence fixes for common government problems, like rapidly translating government documents for the 20 percent of Californians who have limited English proficiency.

On the East Coast, the New York City Housing Authority — the long-beleaguered public agency that houses one in 17 city residents — has started to wield its purchasing power through a series of challenges to create a market for new climate technology.

New York's Local Law 97, passed in 2019, mandates new energy efficiency standards in most buildings over 25,000 square feet. These include housing authority apartments, which primarily use gas-powered heating and cooling. When the agency could not find an effective off-the-shelf solution at

the right price, it partnered with the state's energy agency and power authority to begin a Clean Heat for All challenge. It promised to buy 30,000 heat pumps — heating and cooling devices that run on electricity — from a vendor that could develop an affordable model that worked in cold-weather climates and could be easily installed in window frames.

The authority selected two winners and last winter tried out their prototypes at a building in Woodside in Queens. At a recent panel, the city's first deputy mayor, Maria Torres Springer, described how California's experience and the success with the program helped inspire the city to re-examine the "piping of our procurement policies." In October the city updated its decades-old procurement code, allowing all city agencies to use this challenge-based approach to buy products and services.

Procurement reform is not easy, requiring carefully considered legal, political and, perhaps most important, cultural change. But before undertaking blunt-instrument cost cutting across the federal government, Mr. Musk and Mr. Ramaswamy should consider how the federal government can use its purchasing power to produce not just moonshots but also practical, everyday technologies that can help people by investing in American ingenuity.

Cara Eckholm was a fellow at Cornell Tech's Jacobs Urban Tech Hub and is an author of *Pilot: New York City*, a plan to reform how New York City pilots and procures new technology, from which this essay is adapted. She has also worked as an independent consultant for state and federal governments.

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