



RETHINKING CLUSTER INITIATIVES

CASE STUDY

SYRACUSE

**UNMANNED AERIAL SYSTEMS
(UAS OR DRONES)**

Ryan Donahue
July 2018

B | Metropolitan Policy Program
at BROOKINGS

HIGHLIGHTS

GEOGRAPHY

CenterState New York is a 12-county region including the Syracuse, Ithaca, Utica/Rome, and Watertown metro areas. All references to “the region” refer to this 12-county area, which constitutes the 55th largest U.S. metro area, with 1.5 million residents. (The Syracuse MSA alone is the 84th largest, with 650,000 residents.)

CLUSTER SIZE AND GROWTH TRAJECTORY

The “data to decisions” cluster of which the drone industry is a key, fast-growing component includes 50 firms and 9,000 direct jobs. The entire drone supply chain is estimated to account for nearly 22,000 jobs in the region.

CLUSTER TYPE

The cluster is based on technology and know-how. The drone industry draws upon long-standing regional expertise in radar and sensors and is seen as one application of “internet of things” technology platforms.

ORGANIZATIONAL STRUCTURE

The cluster consists of collaborative implementation by the regional EDO (CenterState CEO) and an industry organization (NUAIR), with approximately four to eight dedicated staff between the two organizations. The state EDO is a key partner and funder, providing \$50 million thus far.

RESOURCES AND KEY ASSETS

Primary cluster initiative investments relate to infrastructure and a high-growth startup accelerator, with a secondary focus on policy research, facilitation of collaborative R&D, and basic economic development services (including attraction and expansion incentives) for firms. At the core of the cluster is a set of large defense contractors also focused on the civilian market, including Lockheed Martin, SRC, Saab, and UTC Aerospace. These strengths are backed by major federal investment and presence (Air Force Research Laboratory, Air Force Reserves, Army and operations facilities).

BACKGROUND

Beginning in WWII, major federal investments in radar technology began flowing to the region. A major GE manufacturing facility in Syracuse was the original center of the industry. In 1946, GE moved its electronics research operations into the region, creating a 155-acre research park and expanding into television and radio applications. As federal spending on radar technology grew during the Cold War, the Syracuse University Research Corporation (SRC) was created, and began to attract engineering talent from across the country. In 1951, the Air Force started what is now called Rome Laboratory, which collaborated with both GE and Syracuse University. After the GE facility was sold to Lockheed Martin in 1992, new companies were spun off and continued to branch into new industries.

Today, these firms and institutions form the foundation of what is called the “data to decisions” (D2D) cluster. Part of the broader and quickly evolving “internet of things” (IoT) industry, the D2D cluster is a group of firms that “collect, analyze, interpret, and protect data” and whose technological capabilities lie primarily in sensing and sensor systems (used in radar, environmental, and medical applications) as well as adjacent fields like cybersecurity and predictive analytics. In the Syracuse region today, the drone industry is the most prominent way in which these technologies are applied. Syracuse is one of about a dozen regions in the U.S. seeking to become a center of the industry.

CenterState CEO (CenterState), a public-private EDO, leads the region’s economic development efforts. Compared to most metro areas, economic development functions in the region are highly centralized. CenterState, with an annual budget of approximately \$15 million and approximately 50 staff, handles not only traditional economic development

functions, but also acts as the holding company for a number of other functions and civic initiatives, ranging from workforce and entrepreneurship to tourism and downtown development. Since 2011, the D2D cluster has become one of its primary focus areas. The story of how D2D became a focus revolves around three key developments, each of which involves significant federal involvement and state investment, coupled with dedicated local research and convening.

First, working with Brookings in 2013, CenterState completed a Metro Business Plan. The initial impetus was that it needed to update its five-year strategic plan, a standard exercise for EDOs. But CenterState leaders recognized that they wanted to position this plan differently. Though CenterState was recognized nationally as a high-capacity EDO and was doing many things right (from its business incubator to neighborhood revitalization strategies), it was increasingly apparent that the region lacked a real economic engine. According to CenterState’s own assessment, decades of industrialization had resulted in “low wages, long-term unemployment, hollowed out urban neighborhoods, and obsolete industrial land.” It could not rely solely on traditional strengths in “eds and meds” or anchor institutions to reverse this trend. So CenterState leadership decided that rather than creating a plan for itself, it would create a regional strategy owned by multiple stakeholders. And it committed to finding a distinctive growth engine, which ultimately led it to identify and prioritize the D2D cluster.

The second major development occurred in 2013, when a group of firms catalyzed an effort to win a designation by the FAA as a drone test site, an unexpected opportunity which led to the development of an industry group (called NUAIR) and further solidified the drone industry as a specific priority.

RETHINKING CLUSTER INITIATIVES

CASE STUDY:
SYRACUSE
UNMANNED
AERIAL
SYSTEMS
(UAS OR DRONES)

And third, in 2015, the state EDO held a competition called the Upstate Revitalization Initiative (URI) in which regions competed for \$500 million in funding for transformative economic development projects. This pushed CenterState and its partners to further define the D2D cluster and formally prioritize the

drone industry. The planning process, for which the region was well-positioned given its earlier efforts, solidified local and state support. And the region's victory brought with it the funding that has accounted for most of the region's investment in the cluster to date.



IDENTIFICATION

The identification of the D2D cluster occurred in three overlapping stages. The first was a standard, though unusually rigorous, data scan. The second was a series of in-depth conversations with local firms. The third involved “zooming out” to understand how the Syracuse cluster was positioned within the broader global industry. Most of this research was done during the two-year Metro Business Plan process, and further refined when the region later made the cluster a key element of its application for the Upstate Revitalization Initiative competition.

The process began with the typical approach to identifying clusters, which provided an important platform for further research, but inevitably suffered from the shortcomings inherent in data-based methods. A report by Battelle, which served as a consultant on the project, determined that 13 sectors were “pivotal” to the region’s “economic health and prospects,” based on criteria including total jobs, growth, specialization, average wages, productivity, and their employment multiplier effects. Of these, six were highlighted because they were specialized, export-oriented industries that generate strong multiplier effects. These were: biomedical, clean technology, digital and electronic devices, metals production and manufacturing, packaging, and precision metalworking. Several of these bore some relation to what ultimately became the D2D cluster, but the cluster itself did not emerge from data analysis alone.

The breakthrough came through the extraordinarily rigorous firm-level intelligence

gathering operation that followed. The impetus for this stage, according to Rob Simpson, CenterState President and CEO, was that Brookings continually urged the team to find a cluster for which the region offered a truly unique operating environment. A small team from CenterState and other local EDOs, along with Battelle consultants, dug into the firms’ history, supply chains, workforce characteristics, and technological capabilities. According to Simpson, “there’s only so much that data can tell you you really need to dig in and understand the company perspective, and companies were willing to engage with us because we’d built up trust over many years.” After nine months of interviews, a common narrative emerged that the D2D cluster represented a unique strength and an opportunity to address specific market failures.

Further analysis then revealed the specific contours of the cluster: Approximately 50 companies, not defined by any standard grouping of NAICS codes, employ over 9,000 workers (approximately 1.4 percent of the region’s total employment), rely on similar skills, draw talent from the same universities, work with the same research labs, collaborate on federal contracts, span a range of sizes and ages, and comprise multiple functions, from headquarters to R&D to manufacturing. The identification of the 50 D2D firms reveals the importance of combining qualitative and quantitative research. Of the 50, about 40 were identifiable from data on SBIR grants, patents, or venture financing. The remaining 10 were identified based on CenterState’s direct knowledge of their activities.

HOW UNIQUE IS CENTERSTATE'S EFFORT?

The CenterState region is not alone in seeking to gain a foothold in the drone industry. Among its competitors are Colorado, Maryland, New Mexico, Nevada, North Dakota, and Virginia. CenterState New York believes it has two key advantages. The first is state funding. As Rob Simpson put it, “we could have done a few small things after the FAA designation and been among the top players, but now we can prove that we’re a center for this we’re investing 10 times what other sites are.” The second is private sector involvement. The drone test site, which has become the center of the region’s effort, was conceived of and is now managed by a business group, whereas most are run by universities.

PRIORITIZATION

Though discussed separately in this report, in reality the decision to prioritize the D2D cluster did not occur independently from the process of identifying it. The decision to target D2D for further identification research was based on fact that it was already deemed a likely priority. However, several factors emerged that made D2D a top priority even among other strong clusters. They are as follows:

Specialization: While specialization alone did not drive the prioritization decision, the region does have moderately strong specializations in most of the key subcomponents of the D2D cluster (the drone industry itself does not have its own NAICS code). These include industries that make IoT products, including digital and electronic devices (1.8 location quotient (LQ)) and research and engineering services (1.3 LQ), as well as several industries in which IoT can be applied, including biomedical (1.6 LQ) and clean tech (1.5 LQ). Only one key part of the industry, precision metalworking, is not specialized (0.9 LQ, and shrank from 2001 to 2013).

Strong firms: The D2D cluster isn’t just large or specialized, but is comprised of a handful of core firms that individually displayed signs of growth and competitiveness (among them: Lockheed Martin, Saab, Welch Allyn, Inficon, Carrier, and SRC). Interviews with the firms in the cluster revealed that they were not only large, but were actively winning contracts and expanding into

new markets, including overseas. As importantly, key companies demonstrated a willingness to actively support the effort.

Innovation: Firms in the D2D cluster are highly innovative relative to other local industries. From 2009 to 2012, there were 935 D2D-related inventions in the region—almost half of all patents produced during that period. Patent strengths cut across manufacturing and services industries (e.g., electronics, engines, medical devices, and data storage). And innovation is not only taking place in a few large firms—five small companies in the region recently received SBIR grants for cybersecurity activities.

Federal anchor: The region’s specialized military assets act as an anchor for the cluster. These include an Air Force Research Laboratory in Rome (specializing in cybersecurity), an Air National Guard wing that was the first to transition from fighter jets to drones (and the only one that flies military drones in commercial airspace), and Fort Drum (which provides one of the largest drone practice areas in the country). In addition, the federal government continues to pump resources into the region—more than \$4 billion in prime contracts to Syracuse radar companies over the past decade.

Market structure: The above justifications relate to the importance of the 50 firms directly involved in creating D2D products and services. Another important justification, however, is that the “big data” and IoT

products they make are also poised to transform a much broader set of industries. When Syracuse's D2D strengths are viewed not independently but as part of the IoT industry (see graphic below), two important implications emerge. First, investing in D2D is likely to have positive spillover effects on other firms that might adopt IoT technologies for their own production processes. Firms likely to do so employ an estimated 40,000 people in the area, or four times as many as the cluster itself. Second, because new applications of IoT are still emerging, investments in this cluster positions Syracuse to be on the frontlines of the creation of "new and unknown future industries as new knowledge is created, technologies converge, and markets shift." While the success of any specific industry (i.e., drones) in Syracuse is impossible to predict, investments in those industries offer a secondary benefit of helping CenterState gain a foothold in a technology platform that is increasingly relevant to many markets.

Technology platform: "internet of things" or "cross-connected platforms"

→ **Applications and related industries:** smart cities, factory automation, smart grid/energy management, precision agriculture, cyber security, communications equipment

→ **Regional niche:** precision sensing and data analytics (i.e., D2D)

→ **Subcomponents considered for regional investment:** unmanned systems (ground, aerial, maritime), personalized/precision medicine, environmental monitoring

→ **Selected for initial regional investment:** unmanned aerial systems (drones)

External market growth: Despite mixed local growth in key parts of the D2D industry (digital and electronic devices, for instance, shrank by 29 percent from 2009 to 2013 as it grew nationally by 4 percent), the D2D cluster was prioritized because related industries are set to undergo a major global expansion. According to a study by research firm IDC, the global IoT industry is expected to grow from less than \$700 billion in 2014 to \$1.7 trillion in 2020. The scale of global growth means that, even if Syracuse were to only maintain its current level of specialization, the local industry is almost certain to grow.

Inclusion: In recent years, CenterState has begun focusing on economic inclusion. One reason D2D stood out was that it offers good-paying jobs for not only engineers and researchers, but also workers without college degrees. This is due to the fact that the region's largest aerospace firms have not only R&D and headquarters functions in the region, but also significant portions of their supply chains.

Evidence of market failure: Because the D2D cluster was identified with the need to develop a major intervention in mind (the Metro Business Plan process required regions to select a single "lead initiative"), CenterState looked for an industry that would "derive added value from intervention." As a nascent industry with evolving regulations and standards, drones in particular offered an opportunity for investments that could make the region a leading location for testing and commercialization.

BUSINESS ATTRACTION AND JOB GROWTH TAKE A BACKSEAT

In contrast to standard practice, CenterState and its partners did not justify its focus on D2D on the basis of firm attraction or job growth metrics. Given the scale of the potential state investment, its Upstate Revitalization Initiative application made modest projections: 479 jobs over five years from firms relocating to region and 1,364 jobs including the expansion of existing firms. These numbers alone would not likely be enough to justify a \$250 million state investment, which highlights CenterState's success in highlighting more nuanced benefits of investing in the cluster, such as innovation capacity, more competitive firms with middle-wage jobs, and a stronger entrepreneurial ecosystem.

RETHINKING CLUSTER INITIATIVES

CASE STUDY:
SYRACUSE
UNMANNED
AERIAL
SYSTEMS
(UAS OR DRONES)

As with the cluster identification process, the development of the region's strategy was sharpened through an iterative process that played out over the course of the Metro Business Plan (MBP) process, the emergence of the FAA drone test site opportunity, and the subsequent Upstate Revitalization Initiative (URI) application.

The process by which the region initially figured out what interventions the D2D cluster needed was driven by the theory of economic development that CenterState adopted as part of the MBP process. The theory was that five “market levers” are key to the development process: the presence of clusters, effective deployment of human capital, and capacity for innovation, supported by quality governance and facilitated by the built environment. With this framework in hand, CenterState and its partners were able to systematically think through the “missing ingredients” in the D2D cluster:

1. **Among defense-oriented firms:** inability to translate expertise into commercial markets. Comprising half of the D2D cluster, these firms frequently collaborate on defense projects but largely have not branched out into other commercial markets. This “translational” challenge is amplified by the absence of large local customers that could provide market insight.
2. **Among non-defense firms:** low awareness of one another's technical capabilities and joint research opportunities. The size of the region, and the fact that some D2D firms are branch operations that lack R&D functions, means that firms miss opportunities for R&D collaboration.
3. **Insufficient university linkages.** Local universities play a key role in generating D2D patents specifically, tech commercialization

generally, and producing a skilled workforce. But there are few D2D research collaborations or spinoffs and a lack of graduates with relevant skills.

Three interventions were proposed in the MBP to deal with these gaps. The main one was a “D2D innovation alliance” that would solve the first two of the above challenges by facilitating cross-sector partnerships between firms in the region (in part via an online portal) and outside of the region (in part through joining national industry groups). In effect, the alliance would facilitate the firm-to-firm learning that normally occurs in clusters with networks of suppliers and customers and leads to new applications of existing technologies. To complement these “market scouting and deal matching” services, the alliance would provide funding for prototyping new applications as well as support for new firm creation. The other two interventions were a “skills broker” to match job candidates with openings for technical positions in the cluster and create stronger linkages between firms and universities.

The process of identifying these market failures and strategies took the better part of two years. Upon concluding, according to Rob Simpson, the region was sure that it had identified a promising cluster, had developed strong relationships with firms, and believed that the above interventions mattered. However, for the two years following the completion of the MBP, the region's practitioners struggled with “planning fatigue.” There was no action-forcing event or obvious opportunity to truly change the trajectory of the industry. Two key developments pulled the effort out of this stasis.

First, in 2012, the FAA announced a competition for designated drone test sites. Currently, drones are not permitted to fly beyond the eyesight of the operator or in airspace shared by other



commercial traffic, which inhibits a number of potential uses for drones (i.e., package delivery or pipeline inspection). The FAA has not yet developed the necessary regulations and is relying on the test sites to experiment with “sense and avoid” technology that will prevent small, low-altitude drones from colliding with one another or other aircraft (traditional airport radar cannot fulfill this function). This “sense and avoid” technology falls squarely within the strengths of key firms in the D2D cluster. As the MBP process was concluding, a group of those firms formed NUAIR (now a coalition of over 200 public, private, and academic entities based at Griffiss International Airport) and pushed the region’s leadership to apply for the designation. In 2013, Griffiss was chosen as one of six sites from more than 50 applicants, immediately making it one of the only places where firms could test commercial drone applications.

Second, in 2015, the state of New York announced the Upstate Revitalization Initiative, through which regional councils (established by Empire State Development in 2011 as part of an effort to transition to “bottom up” economic development) competed for \$500 million in funding over five years. This required an application outlining a strategy and “signature investment”—an opportunity for which the region was well-prepared, having completed the MBP a few years earlier. In response, CenterState, as co-chair of the regional council, and a group of partner organizations (including county EDOs, universities, and firms) kicked off an extensive

effort to gather insight from firms on what potential investments could truly energize their industry and distinguish the region nationally.¹ Ultimately, this process pointed the partners back to the D2D cluster, and specifically to drones. Not only was the industry poised for strong national growth, but there was also a clear opportunity for an investment that would give the region a “first mover” advantage in the industry. In its URI application, the regional council outlined a “signature investment” expected to cost \$250 million and designed to differentiate the region from other centers of drone activity (this comprises items 1 and 2 below, which are together referred to as Project USAFE). In addition, the council proposed aligning various new and existing economic development programs around the drone industry (item 3 below).

1. Construct an unmanned aerial systems traffic management (UTM) corridor. This infrastructure investment actually enables companies to carry out the tests that the FAA designation allows. The corridor, equipped with specialized radar, is being built in stages, but may ultimately be as long as 50 miles. In this corridor, companies can run tests involving the integration of multiple drones in commercial airspace and generate data that can be submitted to the FAA in order to gain certification and ultimately develop industry-wide regulations. In addition, the corridor will be set up to enable companies to build business cases for commercial drone

¹ Biotech and financial services, for example, are important local industries but not ones in which the partners could make a strong case that even a major investment could make the region truly unique in the U.S.

applications for example, enabling firms to survey pipelines or conduct mock search-and-rescue exercises.

2. Establish a national UAS standardized testing and rating (NUSTAR) facility. There is currently a lack of industry standards for drones on issues related to battery life, sensor performance, and cybersecurity, which is inhibiting the development of the commercial market. The region's response is to create a facility that will provide independent performance testing for small civil drones that would become the industry standards, enable development of an insurance market, and, ultimately, attract firms to locate near the facility.

3. Support drone business development, growth, and innovation. A series of additional interventions were included based on lessons from the MBP.

- Accelerator: GENIUS NY is an accelerator based in CenterState's incubator and focused on the drone industry. It works with cohorts of six companies admitted via competitive process for a year. In

addition to funding, companies are provided stipends and access to mentors, service providers, customers, and distributors.

- Incubators: Designated "soft landing" spaces for companies interested in relocating to the region, called "drone zones," are located near the Tech Garden facility in downtown Syracuse (where GENIUS NY is based) and at Griffiss International Airport.
- Policy institute: The effort to integrate drones into national airspace involves many policy considerations. Syracuse University's Maxwell School will form a think tank to research these questions, further enhancing the region's ability to engage with leading firms.

In summary, the 2013 Metro Business Plan still functions as the long-term guide for the region's work on the broader D2D industry. But the opportunities offered via FAA designation and the URI has made these drone-specific investments the main way in which D2D cluster development is carried out.

PRIVATE SECTOR VALIDATION

The partners that worked on the URI application made sure that Empire State Development saw that their idea was based on real private sector demand. The partners attended an industry conference at NASA in 2015 and brought the head of ESD, who met with a dozen major companies (such as Intel, Amazon, and Google) that had been working with local firm SRC/ Gryphon Sensors. Each of the major companies affirmed that USAFE would be valuable and would likely draw firms to the region.

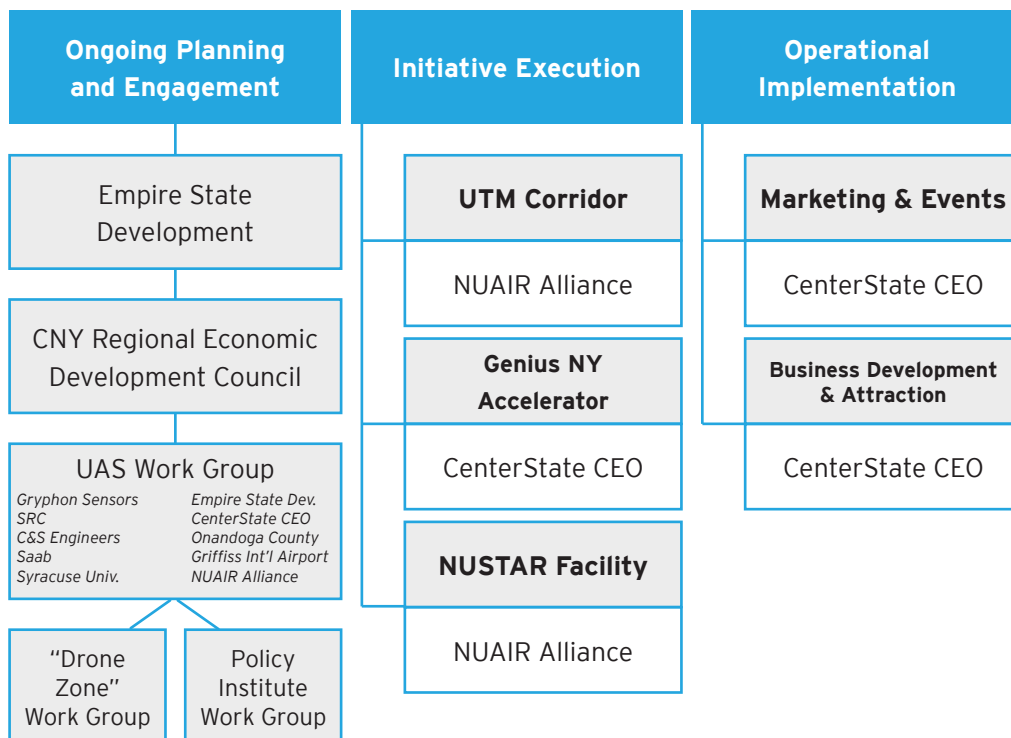
ONE CLUSTER AT A TIME

Even though CenterState now has financial resources at its disposal that most regions could only dream of, it remains dedicated to pursuing just one major cluster effort. The simple reason is that there is a tremendous amount of work involved in developing and sustaining the civic buy-in for such an effort. The region is committed to not risking the support, or diluting the focus, of the many groups upon which the effort depends a lesson for regions that are tempted to pursue numerous cluster initiatives simultaneously, even with fewer resources.

ORGANIZATIONAL STRUCTURE

Three key entities carry out various elements of the region's cluster initiative: CenterState, NUAIR Alliance, and Empire State Development. Though CenterState coordinated the Metro Business Plan, FAA designation, and Upstate Revitalization Initiative planning efforts, the strategy has gained traction in the community

because it does not “belong” to CenterState or any one organization—many entities have a sense of ownership, but are also held together by a strong central strategy that is universally recognized as the priority. The structure of the overall effort is illustrated below.



The structure for **ongoing planning and engagement** is governed by ESD. The UAS Work Group is a standing committee overseen by CNYREDC (the regional economic development entity that reports to ESD). It meets monthly and is responsible for advising CNYREDC on drone investments, conducting pre-development planning, and considering potential new initiatives. Two initiatives that are not yet in formal execution (drone zones and policy institute) have dedicated work groups within this structure.

NUAIR Alliance and CenterState each handle the **execution of specific initiatives**. Staffed by industry experts, NUAIR possesses the

technical knowledge required to oversee the infrastructure-related initiatives (UTM corridor and NUSTAR facility). CenterState, meanwhile, manages the GENIUS NY accelerator, because it has experience managing past entrepreneurship programs and oversees the Tech Garden.

Lastly, CenterState is responsible for an array of **wrap-around economic development services** (marketing, events management, and business expansion and attraction). These generally entail targeting existing programs at the cluster, but also includes a small deal-closing fund specific to the cluster that CenterState uses for mid-sized relocation and expansion projects.

RETHINKING CLUSTER INITIATIVES

CASE STUDY:
SYRACUSE
UNMANNED
AERIAL
SYSTEMS
(UAS OR DRONES)

Seven years after beginning the Metro Business Plan process, the region is just starting implementation in earnest on several key initiatives. This is in part because of the unexpected emergence of the FAA and URI opportunities, which required further planning, but it also speaks to the fact that doing research, designing interventions, and building local support simply takes time to do right (an important lesson for regions that follow five-year strategic planning cycles and expect results to emerge within that window).

As of the spring of 2018, three of the five key initiatives outlined in URI are in year one or two of formal execution. Of those, the GENIUS NY accelerator is the furthest along, mostly because it is an extension of CenterState's existing entrepreneurship accelerator programs. The program has received \$10 million in state funding to run two cohorts of six firms each. Each cohort received \$5 million in funding, \$2.75 million of which is awarded to firms in amounts ranging from \$250,000 to \$1 million, based on performance in a business plan competition and in exchange for a small equity share. In the first three months of the accelerator, firms develop a business plan for that competition, and the following nine months are dedicated to securing additional investment and preparing to bring their products to market. Five of the six firms from the first cohort are planning to stay and grow in Syracuse. The second cohort started in December 2017, and in May 2018, Governor Cuomo announced that the program would continue for a third year.

The other two initiatives in formal execution, the UTM corridor and NUSTAR facility, are moving along more gradually, in part because they are new concepts and involve infrastructure development, and in part because NUAIR did not have a permanent CEO until late 2017. The new CEO is Marke "Hoot" Gibson, a retired

Major General in the Air Force and previously a senior advisor on drone-related issues at the FAA. He is beginning to hire full-time staff with extensive industry experience (ultimately the organization will have five to ten employees). He is also forming a potent economic development partnership with CenterState (whose CEO is the chair of NUAIR's board) and Empire State Development. In this model, NUAIR uses its industry connections to stoke interest among firms, answer technical questions, and manage the test site; CenterState makes the broader case for the region; and ESD offers supporting incentives. While still early, the UTM and NUSTAR projects have proceeded as follows:

- ▶ The UTM corridor began with a \$5 million investment from ESD, which funded a mobile, van-based system (developed by SRC/Gryphon Sensors), development of an operations control and data center, and research projects with Syracuse University. This created a five-mile test radius around Griffiss Airport. In late 2016, ESD announced a second, \$30 million investment to begin development of the rest of the corridor. In May 2018, NUAIR announced the selection of Raytheon and SRC/Gryphon Sensors as leading partners for the development of the corridor.
- ▶ The NUSTAR initiative was initially envisioned as a physical center worth \$50 million to \$80 million, but like the UTM corridor is being developed in stages, beginning with a "virtual" NUSTAR comprised of a handful of companies and university partners. So far, NUAIR has established an advisory committee to develop testing standards and a business model for the center, and in May 2018 announced a partnership with AiRXOS, a GE Ventures Company, to deliver some of the initial testing services.



Already, there are signs that the effort is generating concrete returns. Saab moved its North American headquarters from the Washington, D.C. area to Syracuse and is projected to add 260 jobs over the next five years (as part of a \$30 million state incentives deal). SRC recently hired 80 new workers after

having won several federal contracts and has announced plans to hire 1,000 over the next five years. These expansions are raising the prospect that EDOs in the region are going to have to quickly turn their attention to yet another intervention—workforce development to keep pace with growth.

THE VALUE OF DELAYING MARKETING AND BRANDING

CenterState made a deliberate decision to not create a brand or marketing effort for the region's drone cluster until the region had some "wins under its belt." Its brand, UAS Central, was only released after two years of implementation work. This is a stark contrast to many cluster initiatives, which end up focusing primarily on branding and marketing rather than addressing the needs of firms.

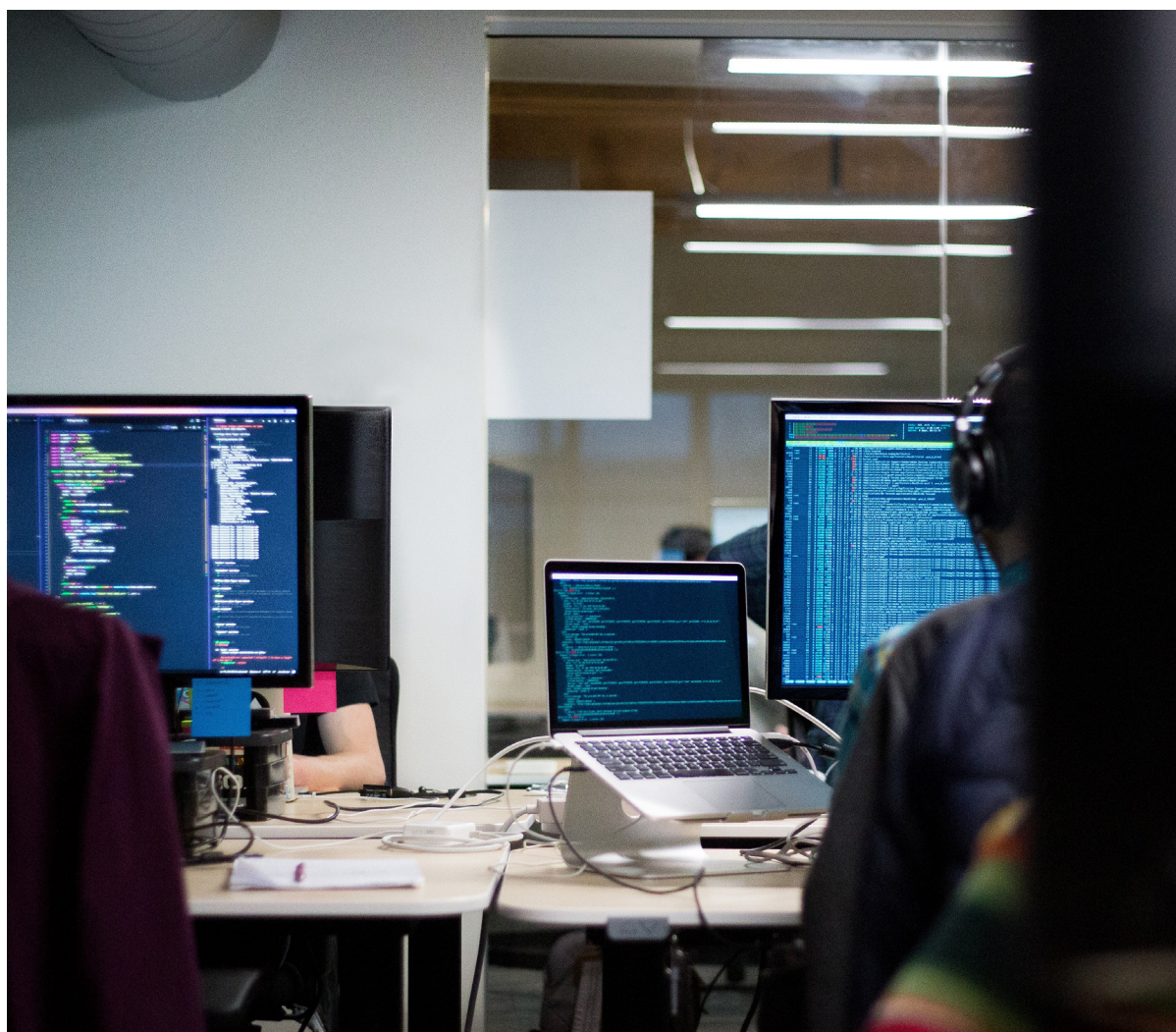
RETHINKING CLUSTER INITIATIVES

CASE STUDY:
SYRACUSE
UNMANNED
AERIAL
SYSTEMS
(UAS OR DRONES)

CONCLUSION

Though still in the early stages of implementation, the region's drone strategy is, by all appearances, a striking success. It will take a long time for the region to achieve its ultimate ambition of not only becoming a national center of innovation in the drone industry, but also a leading region for numerous applications of "internet of things" technologies. Though the region is undoubtedly fortunate to have benefitted from decades of federal investment in radar and sensor technology and to have access to \$250 million in state

economic development funding over five years to support its strategy, its success thus far would have been impossible without a persistent and collaborative local effort. In this regard, the region's strategy already stands out for its rigorous approach to identifying the cluster and its needs, interventions designed in close collaboration with businesses (most notably specialized infrastructure and an industry-specific accelerator program), and strong collaboration between local, regional, and state actors.



SOURCES

CNY Rising (Central New York Regional Economic Development Council application for the Upstate Revitalization Initiative), 2016: http://www.centerstateceo.com/sites/default/files/CNYREDC_URI_FinalPlan.pdf.

CenterState New York Agenda for Economic Opportunity (Metropolitan Business Plan), 2012: <http://www.centerstateceo.com/sites/default/files/Metropolitan%20Business%20Plan%20-%20CenterState%20Agenda%20for%20Economic%20Opportunity%20.pdf>.

Business Plan for Data to Decisions Systems and Technology Innovation Alliance (in support of Metropolitan Business Plan implementation), Battelle Technology Partnership Practice, 2013.

Dave Tobin, "Central New York's wave of innovation: The sky's the limit for the growing radar industry", Syracuse.com, January 16, 2011: http://www.syracuse.com/news/index.ssf/2011/01/central_new_yorks_wave_of_inno.html.

ACKNOWLEDGEMENTS

The author would like to thank the following individuals for generously providing their insights and feedback on this case:

CenterState CEO: Ben Sio and Rob Simpson

Empire State Development: Howard Zemsky

NUAIR Alliance: Hoot Gibson

SRC Gryphon Sensors: Craig Marcinowski

Brookings: Brad McDearman, Joe Parilla, and Amy Liu

PHOTO CREDITS

Annie Spratt (cover), William Bayreuther (page 4), Alex Blajan (page 9), Dose Media (page 13), and Hack Capital (page 14) via Unsplash.

B | Metropolitan Policy Program
at BROOKINGS

1775 Massachusetts Avenue, NW

Washington, D.C. 20036-2188

telephone 202.797.6139

fax 202.797.2965

brookings.edu/metro