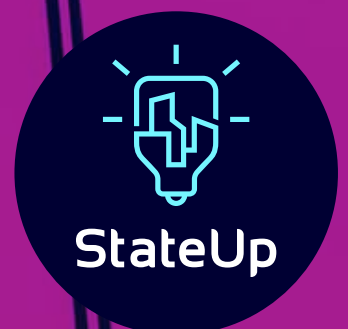

STATEUP 21

DATA-DRIVEN INSIGHTS INTO
GLOBAL GOVTECH



ABOUT STATEUP

StateUp is a boutique multi- disciplinary insights and advisory firm focused on digital innovation with public purpose. Our expertise lies in bridging the gap between the worlds of government and technology with the aim of improving citizens' lives. We work with governments, international organisations, startups and research institutes, providing specialist advisory and training services, and GovTech sector insights.

OUR APPROACH COMBINES THREE KEY STRENGTHS:

1

We are policy and research experts. StateUp combines the highest academic research training and standards with strong policy understanding and experience. We 'translate' complex research findings into products, actionable insights and clear recommendations for busy innovators, donors, civil servants, and policy practitioners.

2

We work with stakeholders across the innovation ecosystem. Our clients are drawn from governments, startups, and international organisations. We have clear insight into public needs and the most relevant policy approaches and products on the market to meet them.

3


We work internationally. With an ear to the ground on the latest technological uptake and policy updates across organisations and countries. We believe context is key.

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The Next Edition

If you believe that your business, or one that you know, should be considered for the next edition of StateUp 21, then please let us know by emailing stateup21@stateup.co or completing this brief form.

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STATEUP 21

STATEUP 21 PROVIDES RIGOROUS, INDEPENDENT, EXPERT ANALYSIS OF SOME OF THE MOST EXCITING UP-AND-COMING STARTUPS OCCUPYING THE GOVTECH FIELD IN 2021. COMPILED BY SECTOR SPECIALISTS AT BOUTIQUE INSIGHTS AND ADVISORY FIRM STATEUP, IT IS THE FIRST ANNUAL PUBLICATION TO OFFER BOTH DATA-DRIVEN INSIGHTS INTO THE INTERNATIONAL GOVTECH LANDSCAPE AND DEEPLY RESEARCHED PROFILES OF SOME OF THE MOST PROMISING GOVTECH STARTUPS—OUR INAUGURAL COHORT OF STATEUP 21 MEMBERS.

STATEUP 21 CREATED BY:

STATEUP DIRECTOR: DR. TANYA FILER

LEAD RESEARCHERS: RILEY KAMINER AND TOLUWANIMI SEGUN

CONTRIBUTING WRITER: SAMUEL HARRISON

COMMUNICATIONS: ALYSSA MUCK

Rigorous, impartial, independent analysis is central to StateUp 21. All Members of StateUp 21 were selected on their own merits. No Member has paid a fee or offered any other financial incentive, directly or indirectly, to be included. The criteria and methodology that we used to choose Members is described later in the report.



CONTENTS

WELCOME	5
TECHNOLOGY GLOSSARY	6
WHAT IS GOVTECH?	7
STATEUP 21	8
WHAT MAKES A GOVTECH STARTUP STAND OUT?	11
DATA-DRIVEN INSIGHTS INTO GLOBAL GOVTECH	15
KEY GOVTECH SUBSECTORS	16
TECHNOLOGY TRENDS	19
OUR 2021 GOVTECH SUBSECTOR TO WATCH: INFRASTRUCTURE AND THE BUILT ENVIRONMENT	22
LEADERS IN A THRIVING SECTOR: MEMBERS OF THE INAUGURAL STATEUP 21	23
MAKING THE SELECTION: DATA COLLECTION AND VERIFICATION METHODOLOGY	24
MEMBERS OF THE INAUGURAL STATEUP 21	25
ONES TO WATCH	25
WHAT NEXT	26
INAUGURAL MEMBER PROFILES	28

WELCOME

2020 WAS TRANSFORMATIVE FOR GOVERNMENTS EVERYWHERE. LIKE THE REST OF US, TECHNOLOGY KEPT MANY PUBLIC SERVANTS GOING, BOTH PERSONALLY AND PROFESSIONALLY. DIGITAL TECHNOLOGIES BECAME MISSION-CRITICAL TO SERVING CITIZENS. ALONGSIDE MANY OTHERS, GOVTECH STARTUPS—INNOVATIVE COMPANIES SERVING PUBLIC SECTOR ORGANISATIONS—CONTRIBUTED TO THIS TRANSITION.

GovTech remains a young sector in much of the world. Data on GovTech startups is often scattered, not cohesively captured by general aggregators of information on technology companies. As research and policy specialists with sector expertise, we wanted to address this gap.

In assessing dozens of high-quality startups to include in the inaugural StateUp 21, we found that no matter what level of government, policy domain, or national context they work in, the most impressive companies address a big problem or public need, creating resilience for their products and services. They are contextually aware and avoid ‘techno-universalism’—the belief that (their) technology alone can save the day. And they actively help public sectors create public trust in institutions and the technologies that they engage, which is now more important than ever.

StateUp 21 brings the data and close analysis to tell their stories, and to improve the capacity for the public sector and entrepreneurial community to cooperate in contributing to develop resilient, adaptive governments and societies. We think they should be talking more—and this will be a measure of success for us.

We are also pleased to introduce Nebula, our carefully curated and quality controlled proprietary database of almost 450 GovTech companies, enabling sector-level analysis. Nebula is necessarily an evolving product—but it is non-exhaustive by design, focusing instead on the most promising startups addressing a big public need. It has been a driving force behind StateUp 21, enabling us to avoid hype narratives and instead reveal the state of the sector with high-quality, granular, data points.

In preparing the inaugural StateUp 21 we drew on the guidance and opinions of numerous experts drawn from the worlds of government and technology (and those who bridge the gap), to whom we are immensely grateful. We would also like to thank the startups who applied for inclusion in StateUp 21 for their efforts and openness in providing information about their businesses.

We hope that you find StateUp 21 valuable and enjoyable.

Best wishes,



Tanya Filer
Founder, StateUp

TECHNOLOGY GLOSSARY

Artificial intelligence (umbrella term):

the application of machines—especially computer programs—to perform tasks that typically require human intelligence.

Machine learning

A field of study concerning how to automatically extract meaningful information from data with statistical algorithms. ML's driving principle is that an algorithm can use statistical patterns within data to make accurate predictions about new data that it hasn't seen before.

Deep learning

Subset of ML that utilizes a hierarchical level of artificial neural networks to carry out the process of machine learning.

Robotic process automation

Term used for software tools that partially or fully automate human activities that are manual, rule-based, and repetitive.

Big data analytics

The use of advanced analytic techniques against very large, diverse data sets that include structured, semi-structured and unstructured data, from different sources, and in different sizes.

Cloud computing

A model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

Communications technologies

Software and hardware used to process and communicate information.

Internet of Things (IoT)

Network of smart devices that can continuously sense or interact with their environment. These devices are able to communicate and respond to information that they gather, enabling the system to facilitate activities, streamline processes, and inform decision-making.

GPS

Satellite navigation system used to determine the ground position of an object.

Robot

A machine controlled by a computer that is used to perform jobs automatically.

Drone

An unmanned aerial vehicle (UAV); an aircraft that carries no human pilot or passengers.

Encryption

The process of converting data to an unrecognizable or “encrypted” form, protecting sensitive information so that only authorized parties can view it.

WHAT IS GOVTECH?

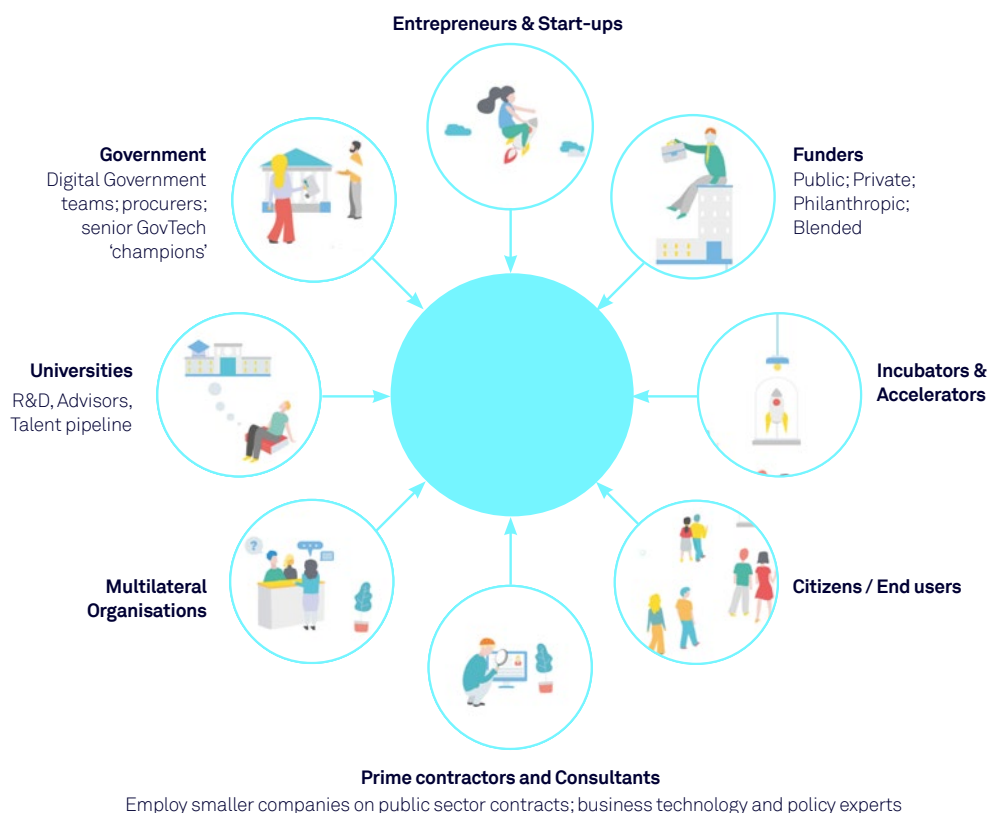
GOVTECH: AN ECOSYSTEM THAT IMAGINES, DESIGNS, AND DEVELOPS VALUABLE DIGITAL INNOVATION FOR, AND WITH, PUBLIC SECTOR ORGANISATIONS.

Governments around the world are recognising the urgent need to move away from expensive, bloated IT contracts, and to serve citizens with greater efficiency and accountability. Startups and scale-ups providing innovative technology products and services to public sector clients can contribute to achieving these objectives. GovTech is an emergent innovation ecosystem in which startups deliver technological products and services, often using new and emerging technologies, to public sector clients. Many GovTech companies work on challenges presented by emergent policy areas, or on problems where

no solution or assistance was previously imagined as technically possible.

The priorities of the GovTech ecosystem include improved efficiency and greater accountability in the public sector and its interactions with citizens. Building trust is crucial to enable productive relationships between startups and the state, and to ensure adoption of genuinely beneficial technologies by citizens. GovTech products and services won't be trustworthy by default. The whole ecosystem, from entrepreneurs to public servants, must contribute to building them this way.

THE GOVTECH ECOSYSTEM*



* Represents the principal organisations and individuals but is non-exhaustive. Main subcategories in grey.

'Champions' are senior advocate (ie.ministerial level)

Image Source: Digital Future Foundation; Data Source: Filer, 2019

STATEUP 21

StateUp 21 provides rigorous, independent, expert analysis of some of the most exciting up-and-coming startups occupying the GovTech field in 2021. Compiled by sector specialists at boutique insights and advisory firm StateUp, it is the first annual publication to offer both data-driven insights into the international GovTech landscape and deeply researched profiles of some of the most promising GovTech startups—our inaugural cohort of StateUp 21 members.

INTRODUCTION

In 2020, the public sector transformed itself from top to bottom.

Civil services shifted to remote work by default. Doctors' surgeries turned to telemedicine. Digital supply chain management became a basic public necessity.

In 2021, public sector organisations, from local authorities to national infrastructure agencies, will continue to rely on digital and emerging technologies to enable almost every aspect of their work.

Startups are far from being the only engines of public sector innovation, but there is growing recognition of the role they have to play. From London to Brasilia, governments are procuring, funding, and tendering challenges from the sector.¹ And startups are stepping up to the mark, their operational agility allowing them to respond quickly to changing circumstances. AccuRx (UK) enabled telemedicine in almost 75 percent of UK GP practices in a matter of days at the start of the pandemic.² Logically (UK and India) has helped government to spot and tackle Covid-related misinformation. Infogrid (UK) has

enabled remote site management for public buildings.

While these tools were born out of crisis, they are likely to remain in use long after. And as the world emerges from Covid-19, the capacity for governments and the entrepreneurial sector to cooperate in addressing major public needs will become more critical than ever. The UNDP Global Centre for Technology, Innovation and Sustainable Development has identified seven digital foundations for Covid recovery, including closing the digital divide, improving the digital literacy of civil servants and citizens, and making data more universally accessible.³ Tech startups are the natural ally of governments seeking to make these changes.

It is critical that we offer more information on the potential of GovTech to improve the services that citizens count on. Many policymakers are interested in emerging and digital technologies but need evidence to justify taking risks with promising young companies. This is especially urgent now, when Covid-19 pandemic has forced governments to digitalise their working habits. Meanwhile, entrepreneurs and investors often aspire to serve the public, but struggle to spot opportunities in the unfamiliar market for government contracts.

This is why we have launched StateUp 21, the first annual publication to provide both data-driven insights into the international GovTech landscape and deeply researched profiles of 21 sector-leading startups. StateUp 21 aims to help public servants to understand what technologies are available to them, and help entrepreneurs and investors better understand the GovTech market.

¹ See, for example, UK GovTech Catalyst and GovTech Lab Lithuania

² Telemedicine Arrives in the UK

³ 7 Ways Digital Can Boost Covid-19 Response and Recovery

STATEUP 21

ADDRESSING THE DATA GAP

GovTech is still a young sector and the data on it is patchy, often lost in the more general category of technology companies. StateUp responded to this challenge by creating Nebula, a unique, carefully curated and quality controlled proprietary database of almost 450 GovTech companies, enabling sector-level analysis. We continue to develop Nebula, which is necessarily an evolving product—but it is non-exhaustive by design, avoiding hype to focus instead on the most promising startups addressing a big public need.

StateUp 21 provides much-needed systematic data and analysis on the state of the GovTech sector around the world. Using Nebula, we have been able to conduct detailed sector-level analysis on the products and services that GovTech companies offer, and the technologies that they use. This analysis illustrates the immense potential of GovTech for public servants: for example, 28% of the companies in Nebula work in Urban and Local Tech, many of them supporting green agendas.

The centrepiece of StateUp 21 is a detailed, evaluation of the work of 21 leading startups in the field. This is the product of a stringent selection process, guided by detailed analysis of Nebula and recommendations from key industry players. StateUp 21 isn't advertorial; it's rigorous, independent, expert insight. Companies profiled were chosen on a geography-, technology- and stage-agnostic basis, reflecting the realities of the market overall (for methodology, see p. 24). Each one is given a detailed, evaluation explaining what they do—be it delivering medicines to isolated rural areas or running automatic fact checks on fake news—and how they have got here. StateUp 21 also highlights several "Ones to watch", budding companies with extraordinary potential for the future.

By bringing together information—both data-driven sector analysis and detailed profiles—on some of the highest quality startups in this field, we hope to offer an unprecedented insight into this dynamic sector of the tech industry. This combination of sector-level analysis and detailed case studies represents the most comprehensive resource currently available on the global GovTech sector.



STATEUP BRIDGES THE WORLDS OF GOVERNMENT AND DIGITAL TECHNOLOGIES TO IMPROVE CITIZENS' LIVES. WE ARE A BOUTIQUE INSIGHTS AND ADVISORY FIRM FOCUSED ON DIGITAL INNOVATION WITH PUBLIC PURPOSE. WE WORK WITH GOVERNMENTS, INTERNATIONAL ORGANISATIONS, STARTUPS, AND RESEARCH BODIES. WE OFFER ADVISORY SERVICES, TRAINING, AND DATA-DRIVEN INSIGHTS.

Examples of our recent work:

UK Parliament 2020

Advising on and documenting how to bring more and better digital engagement in the select committee system

Centre for Digital Built Britain 2020

Co-creating a green and digital vision for the future of the built environment with leading industry stakeholders

Oman National Leadership Programme 2019

Providing training on digital government strategies to senior policymakers and business executives to stimulate better collaboration.

WE'D LIKE TO GET TO KNOW YOU.
SAY HELLO: HELLO@STATEUP.CO

WWW.STATEUP.CO/OUR-INSIGHTS/

WHAT MAKES A GOVTECH STARTUP STAND OUT?

GovTech remains a young sector in much of the world. Data on GovTech startups is often scattered, and not cohesively captured by general aggregators of information on technology companies.

As a result, meaningfully assessing the qualities that high-performing GovTech startups have in common can be difficult.

But when we looked at the 450 companies that we track in Nebula, and assessed dozens of high-quality startups to include in the inaugural StateUp 21, we found several patterns.

No matter what level of government, policy domain, or national context they work in, every company we selected (as well as many others) displayed most of these qualities:

- 1 They address big problems, creating resilience for their products and services.** In recent years, critics have accused technology providers, including startups, of selling ‘innovation’ that public services do not need, exploiting lacklustre public procurement capability. The companies that we have analysed defy this description. They were founded to address meaningful problems and, when given the chance, have listened closely to and collaborated directly with public servants to ensure product-market fit.
- 2 They are contextually aware and avoid ‘techno-universalism’—the belief that (their) technology alone can save the day.** These companies understand that technology can be at its most powerful when working in support of policy levers, and when tailored sensitively to cultural and organisational contexts. Companies like Cyan Forensics (UK) and Privitar (UK) (both StateUp 21 members) develop tools that directly enable policy

implementation—and their products and services are strengthened by substantive inhouse policy expertise. Other companies recognise the limitations of solely technological ‘fixes’ for addressing major societal and public policy challenges. For example, StateUp 21 member Logically (UK), which tackles misinformation in the public sphere, has recognised the limitations of AI systems within its field and adopted a dual AI-human workflow model.

3 They actively help public sectors create public trust in institutions and the technologies that they engage.

The rapid pace of technology uptake during the Covid-19 pandemic has created more public awareness, and often scrutiny, of how governments engage and use technology. Publics are taking notice of the benefits of state digitalisation, but also its shortfalls. Widely reported negative examples, like the algorithmic decision-making fiasco over school leavers’ results in the UK, may cause damage. They risk lowering both adoption rates for genuinely useful citizen-facing services and political buy-in, even where there is little risk of harm.

Many public sector organisations have work ahead to improve their capacity to evaluate where real potential harm lies, versus closing the gates to all innovation.

The most impressive GovTech startups support this mission by going the extra mile to ensure their trustworthiness. Companies like Privitar directly focus on tackling issues of privacy and regulatory compliance. CitizenLab (Belgium) works to mitigate bias in participatory processes. Others, like Superpedestrian (US), a micromobility company, embed safety

WHAT MAKES A GOVTECH STARTUP STAND OUT? CONTINUED

measures as a priority within their products. Superpedestrian (spun-off from the MIT Senseable City Lab) and other university spin-offs like Recycleye (a StateUp 21 One to Watch and Imperial College spin-off) are well placed to prioritise and build for trustworthiness because of their proximity to the latest research and discussion on ethical technology and technology policy. We would welcome more of them.

4 They approach public procurement smartly—although this remains a significant challenge.

Public procurement is critical to bringing more and better digital innovation into public sectors globally. At its best, knowledgeable technology procurement strengthens vendor offerings, ultimately benefitting citizens.⁵ Yet despite procurement reforms, startups in every region still cite procurement processes, frameworks, and cultures as major barriers to securing public-sector contracts.

Covid-19 has had mixed effects on procurement opportunities for startups.

Startups like AccuRx (UK) and Cera (UK) have benefitted from the pandemic because their services have become increasingly recognised as essential. But emergencies can make less tech savvy procurers cautious. Organisations have also been swung by volunteerism—with (typically) large technology companies offering services for free in the first instance. This procurement practice is questionable from an accountability perspective and may disfavour younger, non-incumbent providers.⁷

Three approaches to public procurement are notable among the companies longlisted for StateUp 21.

- **Entering under the competitive bidding threshold.** Almost all StateUp 21 members had experience delivering contracts under the competitive bidding threshold. But in general, only a small percentage of their revenue came from these contracts—typically no more than 15%, across all growth stages and markets. One third of longlisted companies generate 20% to 50% of revenue from contracts below the competitive bidding threshold. A small number of outliers generate 45% or more of their income from this route. Scale-ups falling into this category typically require large sales teams to secure multiple low-cost contracts, and often operate at the city / municipal government level.
- **Recognising plurality in the system.** Some StateUp 21 member companies have formed, or already had, strong senior-level relationships. Yet many lack these connections. Instead, they recognise that public sectors are highly decentralised. They view this plurality in the system as an opportunity for smaller players.⁸ The flourishing of urban and local technology ventures, where decisionmakers may have less bureaucracy to contend with than in central government, speaks to this trend.
- **Adopting a B2B2G model.** For smaller companies to gain access to larger government contracts they often need to work through very-large commercial third parties. Some companies have made the decision to focus their efforts on this avenue, avoiding the cost of entering directly into protracted and sometimes inscrutable public sector procurement processes. But for genuinely innovative startups, this route can also have

⁵ For Local Government, Procurement is Critical to Openness

⁶ Palantir Gives Away Data Mining Tools

⁷ Shaping the State in a Digital Age

⁸ How to be a Digital Translator

⁹ Scaling Civic Tech

¹⁰ In GovTech Investment Patience is a Virtue

WHAT MAKES A GOVTECH STARTUP STAND OUT? CONTINUED

limitations. As one StateUp 21 member describes it, “those types of providers can be a true partner or a seriously constraining influence.”

5 Investors are paying attention.

It is no secret that GovTech startups have historically struggled to win venture investment.⁹ As the Knight Foundation describes, venture capitalists (VCs) have historically held “a long-standing aversion toward companies with government sales models.” VCs have often perceived risk, slowness, and uncertain growth trajectories in startups targeting the government market.¹⁰ They have also often been unwilling or unable to provide the kind of ‘patient capital’—investment accepting of long and inexact timeframes—that some GovTech ventures may require.

These historical perceptions still dominate, and perhaps with good reason. Yet almost every startup that we interviewed noted a shift in investors’ perspectives since the start of the pandemic. One StateUp 21 founder comments that “the biggest, step-change improvement in investors’ perspectives of Govtech startups” is “the necessity of using tools like ours in a socially distanced society.” Many government technology leaders expect technology budgets to continue to grow this year, which may further boost interest. There is also burgeoning interest from investors in technologies to support a green recovery.¹¹

GovTech may also be benefitting from a broader shift in investors’ perspectives towards ‘impact’ investing. One StateUp 21 founder believes that VCs are “more frequently seeking investment opportunities in companies that can do some material good in the world, and those companies

often provide services to governments, who ultimately serve the public.” The buoyancy of investments into the sector at the height of the Corona pandemic may support this claim (see Table 1). These investments collectively point towards a specific vision of a post-pandemic world that includes:

- 1 a green recovery
- 2 a culture of some continued home-working, including among public servants
- 3 a need for cybersecure exchanges of data
- 4 health and social care provision that is resilient to future pandemics
- 5 a need for inclusivity—quickly understanding what a cross-section of citizens are thinking and feeling to support decision making.

Many government technology leaders expect technology budgets to continue to grow this year, which may boost interest.

Investors are also showing burgeoning interest in technologies to support a green recovery, a trend that is likely to accelerate. And as the European Commission begins to make direct equity investments into startups, the European GovTech sector may benefit.¹²

Many investors prefer GovTech companies that also have private sector clients—both to buttress against the long buying cycles and peaks and troughs of government procurement, and because B2B product development can inform new applications for the public sector. Companies like Chainalysis (US), Irys (US / Mexico), and Privitar (UK—all StateUp 21 members—serve clients across sectors. Accel has invested in both Chainalysis’ and Privitar’s most recent rounds.

¹¹ Investors Eye Profit From Green Recovery

¹² European Commission makes its first equity investments into startups

WHAT MAKES A GOVTECH STARTUP STAND OUT? CONTINUED

TABLE 1: RAISING CAPITAL FOR GOVTECH DURING THE PANDEMIC

COMPANY	FOCUS	ROUND	AMOUNT RAISED IN ROUND (CONVERTED TO GBP)	INVESTORS IN THIS ROUND	QUARTER (2020)
Via (US)	Mobility	Series E	£146.5m	EXOR N.V., Shell Ventures, 83 North, RivePark Ventures	1
Chainalysis (US)	Anti-fraud	Series B	£74m	Addition, Benchmark, Accel	4
Privitar (UK)	Data privacy	Initial Growth Investment	£60m	Warburg Pincus, Accel, Partech, IQ Capital, Salesforce Ventures and ABN AMRO Ventures	2
Cera (UK)	Social care	Equity & Debt	£54m	KairosHQ, Yabeo, Guinness Asset Management Undefined	1
Superpedestrian (US)	Mobility	Undefined	£45m	Citigroup, OurCrowd, Winthrop Square Capital	4
SeeTree (Israel)	Infrastructure and environment	Series B	£22m	International Finance Corporation	4
Zencity (Israel)	Social listening/ data-driven decision making	Series B	£10m	TLV Partners, Salesforce Ventures, M12	3
Trafi (Lithuania)	Mobility	Series B	£10m (est.)	Aioi Nissay Dowa Insurance, Sumitomo Corporation, Octopus Investments	3
Commonplace (UK)	Citizen engagement/ Data-driven decision making	Series A	£3m	Beringea	2
Logically (UK)	Mis/disinformation	Seed	£2.5m	NPIF – Mercia Equity Finance, GTX Ventures	3
Gove (Brazil)	Administration/ Budgeting	Seed	£1.1m	Astella Investimentos	4
Irys (US / Mexico)	Citizen engagement/ Public services	Seed	£0.9m	Good Growth Capital, Techstars Ventures, City Rise Ventures	3
Colab (Brazil)	Citizen engagement	Undefined	£0.4m	Luminate, Media Development Investment Fund, EDP Ventures	3
AMP Robotics (US)	Urban and Local/ Recycling	Series B	£40.3 m	XN, Valor Equity Partners, Sidewalk Infrastructure Partners, Sequoia Capital, GV, Congruent Ventures, Closed Loop Partners	Q1, 21
Carbyne (US)	Public safety	Series B	£18.3m	Hanaco Ventures, ELSTED Capital Partners, David Petraeus, Founders Fund, FinTLV	Q1, 21

DATA-DRIVEN INSIGHTS INTO GLOBAL GOVTECH

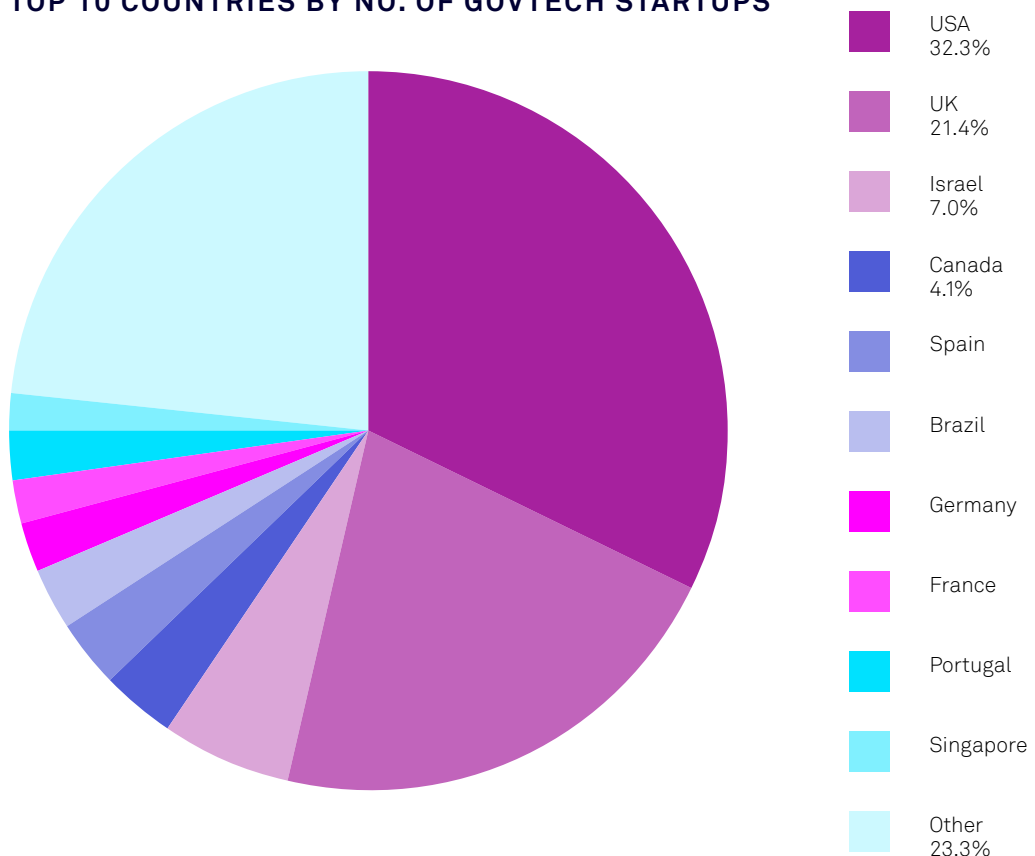
GovTech startups are dispersed across a wide array of fields, making use of a broad range of technologies. It is partly due to this sheer variety that they have so far evaded systematic, comprehensive analysis—and it can be difficult for policymakers to navigate such a bewilderingly diverse landscape.

Using our own database, Nebula, StateUp has conducted an analysis of the current state of the GovTech sector to identify patterns and trends in what startups are doing, and what technology they are using to do it.

Here, we present some key insights.

NEBULA'S GEOGRAPHIC COVERAGE

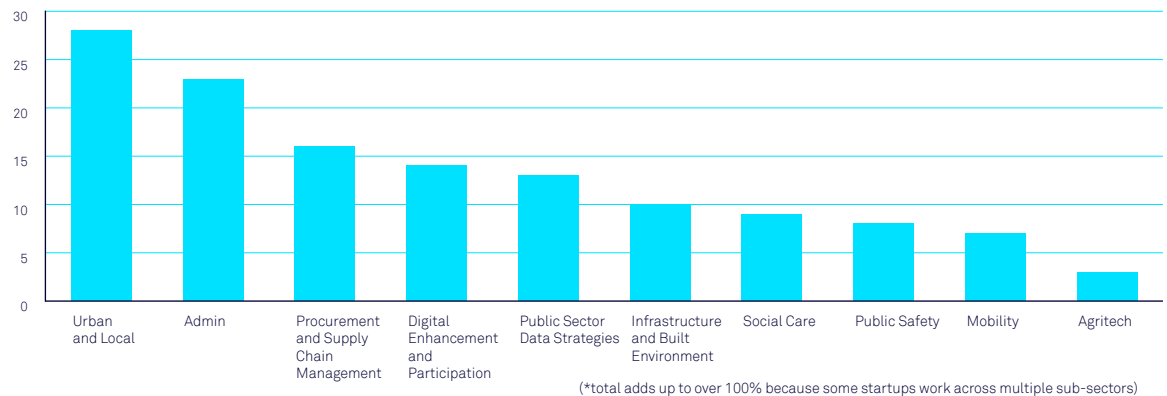
TOP 10 COUNTRIES BY NO. OF GOVTECH STARTUPS



KEY GOVTECH SUBSECTORS

PRIMARY GOVTECH SUBSECTORS

TOP 10 SUB-SECTORS BY % OF TOTAL



PRIMARY GOVTECH SUBSECTORS BY % OF STARTUPS OPERATING IN THEM ¹³

This visualisation shows the main GovTech subsectors in which firms in our dataset currently operate. Urban and local, administration, procurement and supply chain management, and digital engagement technologies to dominate.

Some startups work at the intersection of more than one subsector, so are counted more than once.

Urban and Local Tech is the largest subsector, comprising 28% of our dataset.

This subsector is characterised by a large number of early-stage firms that currently operate at a local or national level, though in some cases, they have quickly expanded to countries that share a language, political or regulatory system, border, or other cultural elements. For example: MuniDigital (Argentina), a StateUp 21 One to Watch, allows citizens to report incidents to the local municipalities via its online cloud-based incident management solution. Drawing on its deep regional understanding, it has reportedly worked with 300 local

government organisations across Latin America. With cities increasingly investing in green agendas, there is a growing emphasis on achieving better environmental outcomes among these companies.

Administrative Tech forms the second largest subsector, comprising 23% of startups in the space, according to our data. This wide-ranging category includes firms that help manage human capital and track or create budgets more efficiently, like Gove (Brazil), a StateUp 21 One to Watch.. Companies in this subsector frequently also serve the B2B market.

16% of companies are tackling procurement and supply chain issues.

The Covid-19 crisis has already shifted reform of procurement processes to the top of the agenda. One major example is growing acknowledgement of the urgency of engaging remote sensing technologies to assist in tracking and managing emergency procurement spending. Blockchain

¹³ Health and cybersecurity, developed ecosystems in their own right, are excluded from this analysis.

KEY GOVTECH SUBSECTORS CONTINUED

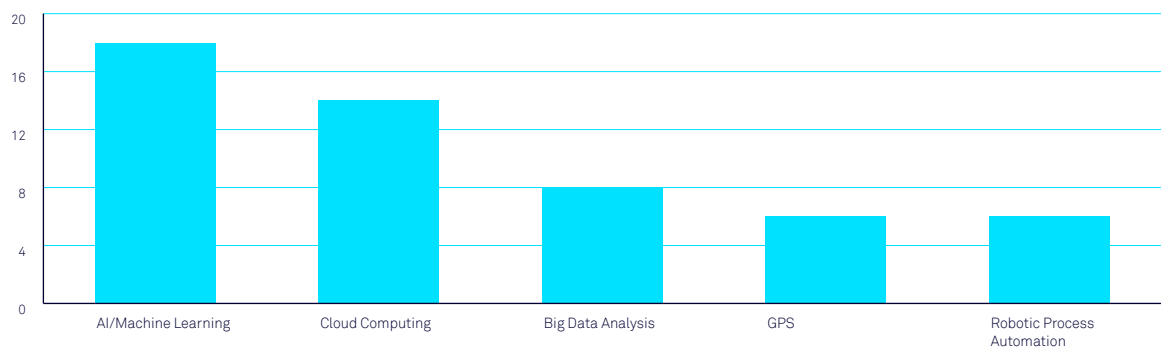
technology has been proposed to support management of critical PPE (personal protective equipment) supplies. Technology uptake could have a role to play in recovery and resilience-building processes, including reducing resource inefficiency, mitigating corruption risks, and bolstering trust in government. As cold chain management rises up policy agendas to facilitate vaccine roll-out in remote and rural areas, cold chain monitoring technologies such as those offered by Logistimo (India), a StateUp 21 member, will be increasingly sought after.

Digital engagement and participation, on which 14% of startups in Nebula focus, is a crowded space. Participatory technologies have become the subject of increased attention during the Covid-19 pandemic as public sector organisations and legislative

bodies seek innovative ways of meaningfully engaging with the public in the context of social distancing.¹⁵ These organisations often suffer from their lack of experience when it comes to knowing where to turn for market engagement. Yet for those that do, it is a buyers' market, with similar products vying for attention. A primary distinguishing feature between offerings is technology advantage—and particularly whether and how they use AI, including to organise citizen responses, close feedback loops, or route comments and reports. Companies such as CitizenLab (Belgium), a StateUp 21 member, and Insights.US (Israel), use natural language processing (NLP) to sort citizens' responses on their engagement platform. Many others do not, increasing the replicability of their products.

DIGITAL ENGAGEMENT / PARTICIPATION: MOST USED TECHNOLOGY INNOVATIONS

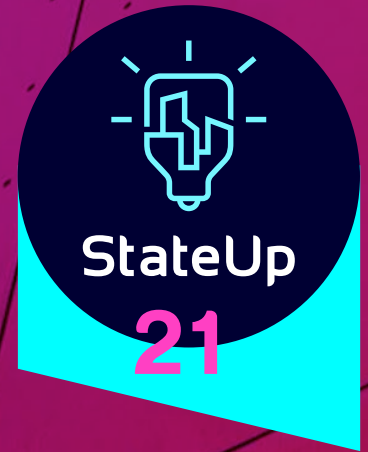
TOP 5 TECHNOLOGIES BY % OF STARTUPS THAT SELF-REPORT USING THEM



Some digital engagement companies distinguish themselves through a sectoral or institutional focus. Bussola.tech (Brazil) focuses on legislative bodies. Commonplace (UK), a StateUp 21 member, was selected

for its shrewd concentration on the built environment sector, developing products that speak directly to a large addressable market with specific, often mandated, engagement needs.

¹⁵ "Parliament" at StateUp



INTRODUCING NEBULA:
STATEUP'S UNIQUE,
CAREFULLY CURATED AND
QUALITY CONTROLLED
PROPRIETARY DATABASE OF
450+ GOVTECH COMPANIES.

Nebula is designed to be the go-to destination for policymakers, investors, and technologists looking to gain deep, actionable insights into the GovTech sector.

Learn about global GovTech, and delve deeply into specific subsectors like Digital Engagement, Infrastructure and the Built Environment, or Urban and Local Tech.

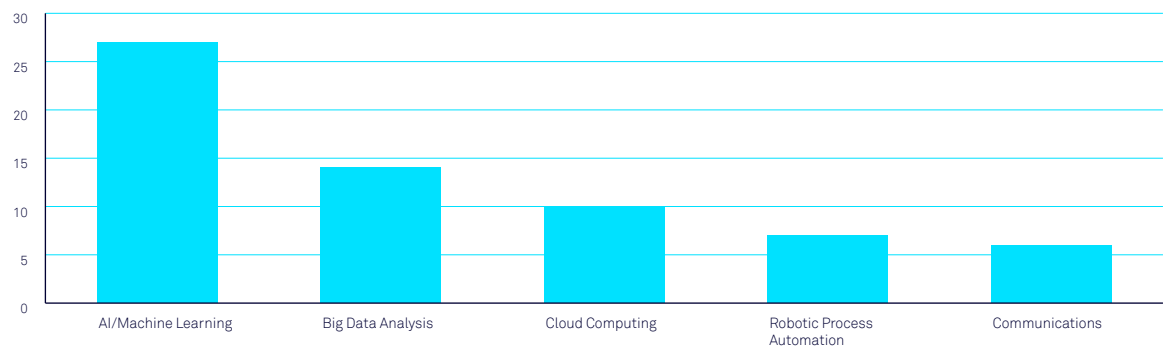
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TECHNOLOGY TRENDS

WHAT CORE TECH INNOVATIONS ARE GOVTECH COMPANIES USING?

TOP 5 TECHNOLOGIES BY % OF STARTUPS THAT SELF-REPORT USING OR DEVELOPING THEM AS KEY TO THEIR PRODUCTS AND SERVICES



The use of Artificial Intelligence is, unsurprisingly, a major trend across a wide range of subsectors within the GovTech space. Fully 27% report making use of some form of AI or machine learning—though we observe a wide range in terms of stages of development. The pace that AI is being developed for public sector organisations across all policy domains indicates an urgent need to upskill public servants so that they can better understand the technology. It is now a likelihood that they will procure, work with, or be responsible for an AI system—and one engaged in a potentially sensitive policy area—at some point in their careers. Many government organisations disclaim any ability to understand how AI systems that they have procured from third parties work.²³ Nonetheless, it is reasonable to take some claims of AI use or development with a pinch

of salt. Many startups aspire to use AI but may not have yet integrated it into product offerings. We are also aware of several cases where GovTech startups have halted development of AI systems.

Urban and local tech startups are most likely to say that they are using AI / ML as a key technology. While there are many beneficial uses of these technologies for urban inhabitants (as documented in several StateUp 21 profiles) taking an exclusively algorithmic view of urban life will lead to cities that, as Ben Green describes, “appear smart but under the surface are rife with injustice and inequality”.²⁴ We support the idea of a “smart enough” city: able to embrace technology as a powerful tool when used in conjunction with other forms of policy development and social change.

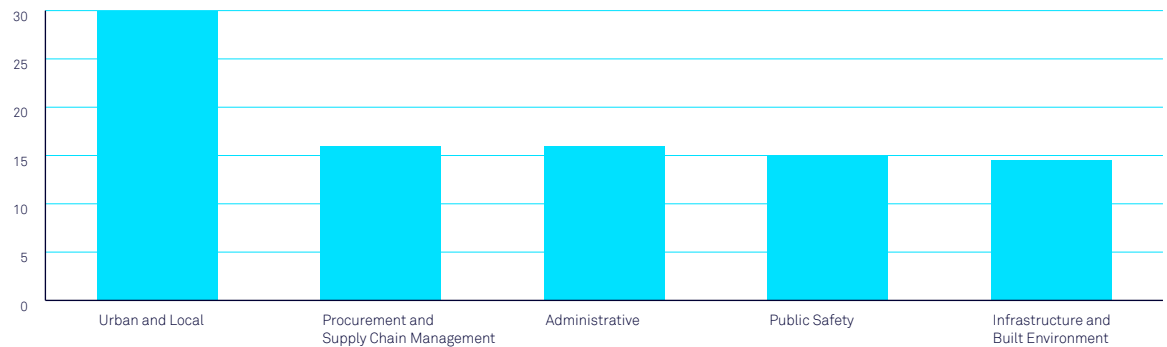
²³ AI Systems as State Actors

²⁴ Ben Green, *The Smart Enough City* (2019).

TECHNOLOGY TRENDS CONTINUED

WHICH SUBSECTORS USE AI / ML?

TOP 5 BY % STARTUPS THAT SELF-REPORT USING AI/ML



Big Data Analytics is the second most popular category of tech developed by startups in Nebula. These companies are meeting growing interest in public sector organisations in making better use of the vast swathes of data to which they often have access, including to inform decision-making. Big Data Analytics technologies include knowledge discovery tools (like APIs), data visualisation, and stream analytics, which enables processing of data from across platforms and in multiple formats.

Cloud investments are up: after investment in security and privacy (47%), investment in infrastructure and the cloud was the third most important technology investment during COVID-19, with the number of IT leaders actively considering distributed

cloud nearly doubling in just 12 months (from 11% to 21%).²⁵ And while 10% of startups in Nebula are actively developing cloud-based solutions or view it as core to their product offering, many more than this actually make use of cloud technologies.

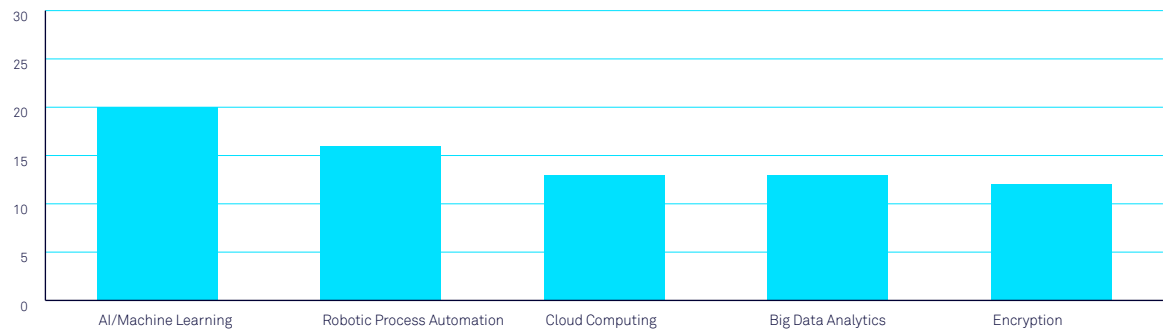
Robotic Process Automation (RPA) is particularly prevalent in the Administrative Tech subsector, with startups aiming to automate repetitive administrative tasks, including channelling communications to the correct departments. 36% of administrative tech startups in Nebula report having some AI/ML or RPA capability. For example, Viewpoint (USA) uses RPA to help councils manage permit and licence requests, while doDoc (Portugal) engages it to support broader workflow management.

²⁵ Covid-19 Forces One of the Biggest Surges in Technology Investment in History

TECHNOLOGY TRENDS CONTINUED

ADMINISTRATIVE: MOST USED TECHNOLOGY INNOVATIONS

TOP 5 TECHNOLOGIES BY% OF STARTUPS THAT SELF-REPORT USING THEM

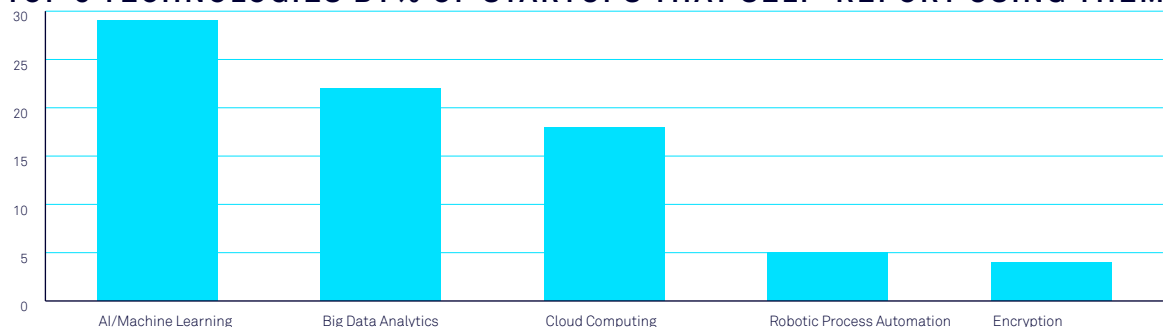


Based on our data, the procurement subsector is heavily focused on AI and machine learning, big data analytics, and cloud computing: 69% of innovative startups in this subsector say that they use at least one of these as a key technology. This trend comes as no surprise given the nature of the services govtech procurement companies seek to provide. Take, for

example, SmartProcure. Their database uses big data analytics to compile and organise U.S. Government purchase orders, which allows for greater transparency between government contractors and tech suppliers. B2Gov (Argentina), a StateUp 21 One to Watch also uses big data analytics, with a focus on opening up procurement data on specific goods and services in Latin America.

PROCUREMENT AND SUPPLY CHAIN MANAGEMENT: MOST USED TECHNOLOGY INNOVATIONS

TOP 5 TECHNOLOGIES BY% OF STARTUPS THAT SELF-REPORT USING THEM



There also appears to be increasing uptake and development of Open Source Software in the GovTech space, which may offer a lower cost option for government organisations keen to adopt and scale new technologies. This trend may be welcome as budgets tighten in the wake of the pandemic. CitizenLab (Belgium), a StateUp 21 member, plans to go open-source in early 2021, in support of

their transparency agenda. And government themselves are both embracing open-source and setting open standards.²⁹ We know that public procurement can play a powerful role in encouraging open-source entrepreneurship.³⁰ In many national contexts, a more robust understanding of open-source business models for GovTech startups will be required if open-source is to boom.

26 For further analysis of the procurement subsector, see StateUp GovTech Snapshot Summer 2020

29 See, for example, Sharing America's Code and Open Government Products (Singapore)

30 Government Technology Policy, Social Value, and National Competitiveness

OUR 2021 GOVTECH SUBSECTOR TO WATCH: INFRASTRUCTURE AND THE BUILT ENVIRONMENT

Infrastructure and the Built Environment is our GovTech ‘subsector to watch’ this year.

The infrastructure and built environment subsector currently accounts for 10% of our database, and focuses on companies developing and managing built assets and infrastructure (bridges, roads, homes, airports, etc.) that will last for many decades. We anticipate this share rapidly increasing as policymakers around the world look to the sector to encourage a green recovery, and—we hope—use their procurement power around public infrastructure and public buildings to lead the way. Taking the UK as an example, built environment assets are responsible for roughly 40% of the country’s total carbon footprint. Approximately a quarter of construction output is by the public sector, making public procurement a clear vehicle for change.³²

Digital transformation of a conservative industry like construction will take concerted effort.

But there is increasing international consensus across stakeholder groups that change is needed.³³ In the UK, efforts including the National Digital Twin encourage good data sharing practices—a boon for innovation.³⁴ The newly issued Construction Playbook recommends that contracting authorities should use the UK BIM Framework to standardise the approach to generating and classifying data, data security and data exchange, and advocates early market engagement, including with innovation-oriented SMEs. Industry-led supply chain and procurement reform initiatives, such

as Project 13, which encourages outcomes-based procurement, may also bolster young companies looking to enter this ‘legacy’-dominated space.

These efforts are benefitting from a growing budget. France, for example, has set aside €20bn to make buildings energy-efficient, revamp transport networks and upgrade care facilities, and 30% of the European Union’s €750bn (\$918bn) recovery fund is dedicated to ‘green’ projects.³⁵

And things are already changing. The USD\$240 million acquisition in late 2020, by Autodesk, of Spacemaker (Norway), founded in 2016 to develop generative design software for outcomes-focused urban development, hints at an industry increasingly ready to re-think its design practices.³⁶ Companies that pair cutting-edge digital solutions with green credentials have potential to fare well in coming years. Early-stage companies like BeamUP (Israel) bring innovation to the design and construction process, including for public buildings. But every part of the built environment lifecycle matters. Sustainable building maintenance services, like those offered by Infogrid (UK), a StateUp 21 member, and Plentific (UK), have already captured the attention of the public housing authorities, while Biobot (US) uses data extracted from a long-existing infrastructure system—sewage—to improve public health, revealing the value of data at every stage of the infrastructure lifecycle.

³¹ Climate Change

³² Design Buildings: Public sector

³³ Six Qualities of Sustainable Infrastructure in Action

³⁴ National Digital Twin Programme

³⁵ Is an Infrastructure Boom in the Works?

³⁶ Spacemaker is acquired by Autodesk for 240m

LEADERS IN A THRIVING SECTOR: MEMBERS OF THE INAUGURAL STATEUP 21

Sector-level analysis—the big picture—is vital for understanding the enormous potential of GovTech for improving public services.

But to demonstrate the sector's usefulness to policymakers, and help entrepreneurs and investors to put their skills and resources towards the public good, StateUp has conducted detailed evaluations of 21 of the most promising startups in the sector.

StateUp 21 aims to showcase some of the highest quality GovTech startups, favouring careful analysis over a quick “Top Ten” list. As the GovTech landscape matures, an objective measure of quality such as revenue growth, accountability and end user satisfaction may become valuable. However, at present, rigid selection criterion may be of limited value, given both the relative youth of the sector and the breadth of GovTech offerings, business models, and markets.

Instead, we have assessed eligible companies based on detailed submissions covering the big problem the company is focused on, case studies, revenue and revenue growth, business model and strategy, clients and investors. Although variation in business models had to be taken into account, some weighting was placed on revenue in relation to growth stage. The small number of Members who did not disclose it to us had to meet a higher bar on the other criteria than companies that did.

To be eligible as a Member, companies needed to meet most of the following criteria:

- Address a big problem or public need
- Offer a proposition that is **technology-led and innovative**—where in certain cases innovation may lie in the application rather than the technology, but ideally will be in both
- Have at least one **public sector client**, and typically many more
- Demonstrate **attentiveness to accountability**

and social value, for example through an emphasis on regeneration of the natural environment or responsible data practices

- We avoided companies seeking to ‘replace’ the public sector rather than to work productively with it, albeit we note that in weak state contexts there may be rationale behind private providers ‘stepping in’ under certain conditions.
- Our focus is **for-profit enterprises, including social businesses**

The objective of StateUp 21 is to highlight startups that have traction and potential for more substantive works with public sector organisations. This could be in any country, and at any level of government, from local to federal, or with international governance organisations. We seek broadly to reflect the realities of the sector, and the different stages of ecosystem development in different countries and regions. We only focus on startups, not other company types, even as we acknowledge the developments taking place in established technology companies, public sector organisations, and universities.

As a result, almost half of this year’s StateUp 21 companies are based in Anglophone countries, reflecting the relative maturity of the US, and increasingly the British, GovTech ecosystems. Several Members are European, and have benefitted from EU investment and procurement reform. Several of our ‘ones to watch’ are based in Latin America where there is a large addressable market increasingly supported by development banks and impact investment vehicles that have begun to invest in GovTech efforts.³⁷

There is no fee or other financial incentive for Membership: all Members are selected on their own merits.

MAKING THE SELECTION: DATA COLLECTION AND VERIFICATION METHODOLOGY

Selection for StateUp 21 was guided by recommendations from key industry players, as well as detailed analysis of companies from Nebula, our quality-controlled proprietary database of almost 450 startups working with public sectors internationally. Startups could also self-nominate themselves for consideration. Once the longlist was set, we requested further information from the startups themselves. Companies were given the opportunity to explain the big problems they are tackling and why they are best positioned to make a positive impact. They were also encouraged to highlight their innovative approaches and any advanced technology they use.

We then determined a shortlist based on this information. We aimed to include startups operating across a representative sample of sub-sectors, working with a diverse range of public sector clients, and at various stages of growth. We also considered the quality of founding teams, government contracts, and investors—albeit recognising that younger companies could only imperfectly be evaluated against these criteria. While our focus is on the public sector work of these startups, we did

not penalise (and in some cases looked favourably on) companies with private sector contracts; these often show the adaptability and versatility of a startup's offerings. Startups were able to fact check their profiles ahead of publication, but they were not permitted to make substantive changes to the content.

It was challenging to decide which firms to include in our final list. But the difficulty of this task shows that the GovTech space is vibrant and rapidly developing, promising rich pickings for future editions of StateUp 21.

Featuring in StateUp 21 does not involve any sort of payment. We are policy and research specialists, and the aim of this publication is to provide independent research insights. We believe this is much needed for the government market, the entrepreneurial sector looking to interact with and sell into it, and investors seeking out impactful companies. StateUp 21 is not a conventional 'list'—we aim to bring granular understanding of the latest genuinely innovative and useful technologies that public sectors can and should engage with, moving beyond hype narratives.

MEMBERS OF THE INAUGURAL STATEUP 21

Commonplace (UK)

Citizen Engagement / Infrastructure and Built Environment

AMP Robotics (US)

Urban and Local / Recycling

Spacept (Sweden)

Infrastructure and Built Environment

Privitar (UK)

Data Privacy

Healthy.io (Israel)

Healthcare

Irys (US / Mexico)

Citizen Engagement / Collaborative Public Management

Trafi (Lithuania)

Mobility / Local and Urban

Cera (UK)

Social Care

Logistimo (India)

Supply Chain Management

Element (UK / Germany)

Communications

Infogrid (UK)

Infrastructure and Built Environment

CitizenLab (Belgium)

Citizen Engagement

Logically (UK / India)

Mis/disinformation

Remix (US)

Mobility / Local and Urban

AccuRx (UK)

Healthcare

Colab (Brazil)

Citizen Engagement / Collaborative Public Management

Yoti (UK)

Digital Identity

Zencity (Israel)

Social listening / Data-driven Decision Making

Cyan Forensics (UK)

Public Safety

Chainalysis (US)

Anti-fraud

Edgybees (Israel)

Public Safety

ONES TO WATCH

Aleph Alpha (Germany)

Creates AI tools for use in security-critical environments.

Asteroid Technologies (Argentina)

Asteroid's flagship product, Háblalo, provides communication support for people with disabilities.

B2Gov (Argentina)

Is creating data analysis tools for public sector market intelligence.

Continuum Industries (UK)

Automates and optimises infrastructure design, including rail, roads, pipelines and power cables.

Gove (Brazil)

Facilitates public financial management through data analytics.

Munidigital (Argentina)

Has developed a one-stop platform for managing municipal operations, with recent strong growth in Latin America.

Recycleye (UK)

Imperial College spin-off training powerful recycling robotics to bring transparency, traceability and accountability to waste management.

Toka (Israel)

"Cyber design" services providing governmental agencies with full-spectrum strategies, projects, and technological capabilities to keep critical infrastructure, the digital landscape, and government institutions safe and secure.

WHAT NEXT

StateUp 21 focuses on the GovTech ‘supply’ side: startups with high-growth potential creating technology-based products and services that serve a public purpose, specifically by addressing the public sector market. GovTech startups will not alone improve how public sector organisations work, engage data, or more profoundly re-imagine how technologies effect their relationship with the citizens that they serve. And where GovTech is an appropriate route to bringing more and better digital innovation into the public sector, many participants have a role to play, with public servants front and centre.

Emergent research offers clear-eyed analysis of policy and delivery requirements—the demand side—to enable entrepreneurial firms to work with public sector organisations.⁴¹ We know an increasing amount about how public sectors can procure innovation well, and the procurement innovations required to

enable it (for example, challenge-based and outcomes-led procurement). We also know that public procurement of innovation can positively impact the broader economy.⁴² More generally, public policy can help to bolster entrepreneurial ecosystems, and shape the direction of venture capital investment and other funding.⁴³ In the case of GovTech, where governments are also the clients of GovTech firms, it is clear that policymaking has a multi-dimensional role to play at the various stages of the innovation lifecycle.

To date, far less has been known about the technology innovations available (and those that are still lacking)—and the companies creating them—to help address public sector challenges. This is true at both a sectoral and individual firm level. StateUp 21 contributes to addressing this gap. We look forward to continuing to track, analyse, and tell the stories of the sector in our future publications.

⁴¹State Capabilities for Problem-oriented Governance

⁴² Government Technology Policy, Social Value, and National Competitiveness

⁴³ Josh Lerner, *Boulevard of Broken Dreams* (2012)

STATEUP 21 LAUNCH EVENT YOU'RE INVITED

Join us for an engaging and interactive discussion with investors, technologists and StateUp 21 members at our launch event for StateUp 21

ON TUESDAY, 9TH FEBRUARY
FROM 5PM – 6:15PM GMT

Confirmed Speakers include:

Tiffany Chu, CEO and Co-founder of Remix

Daniel Korski, CEO and Co-founder of PUBLIC

Dr. Steve Unger, Commissioner, Geospatial Commission (UK)


Dr. Tanya Filer, Founder of StateUp

We'll be discussing the opportunities and challenges that the GovTech sector faces in 2021, and how leading founders, investors and policy experts view them. Audience participation and Q&A will be encouraged.

We look forward to seeing you there!

RSVP [HERE](#)

If you believe that your business, or one that you know, should be considered for the next edition of StateUp 21, then please let us know by emailing stateup21@stateup.co or completing this brief form.

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STATEUP 21

INAUGURAL MEMBER PROFILES

COMMONPLACE

ENABLING BETTER INFORMED AND MORE INCLUSIVE PLANNING DECISIONS

COMPANY SUMMARY

Founded in 2013

Total funding £3.3 million; last round (Series A) £3 million

Investors include Beringea and Social Tech Trust

Based in London

29 FTEs¹

Key clients/partners: Camden Council, Lewisham Council, and Surrey County Council, Leeds City Council, Blackpool Council, Highways England, HS2, Waltham Forest

Key executives: Mike Saunders, Co-Founder & CEO:

Seasoned digital innovation and communications executive, former advisor to UK Parliament on public engagement; David Janner-Klausner, Co-Founder & Customer Success Director: non-profit executive, urban planning expert.

PROFILE

Commonplace, a digital engagement platform, focuses on planning and the built environment. It is unusual in enabling collaboration between public sector organisations (eg. local councils, national infrastructure management groups) and private construction firms on the creation of planning consultations. This cooperative approach may result in a more comprehensive understanding of all stakeholders' points of view, and better outcomes for citizens.

Commonplace's platform offers several participation resources. Its "Community Engagement" tool serves geo-targeted social media ads that ask citizens for their opinions on how to improve their local area.² Responses are collated into a dashboard for municipal staff to analyse. "Planning Consultations" asks citizens to respond to a specific plan in the works.³ A Community Heatmap enables hyperlocal responses, with respondents commenting on 'dropped pin' locations. The platform's data analytics can organise feedback by topic and sentiment. The platform is data secure, accessible, custom branded, and supported by a team of engagement experts. Local authorities and private sector partners typically integrate the information they collect from the platform into their statement of community involvement (SCI), which forms a crucial part of UK planning applications.

Under the National Infrastructure Strategy, the UK government has set itself the aim of simplifying planning procedures to allow more schools and hospitals to be built, without sacrificing local control over new projects. Services like Commonplace could play a key part in this, allowing local consultations to take place more quickly and in more detail. It is up to local authorities and planners to ensure accessibility, complementing digital offerings with offline consultation where needed.

PLANS FOR 2021

- Hoping to create the largest digital footprint of citizens involved in planning decision-making by helping over 4m citizens engage in one of their projects.
- Aiming to establish Commonplace as the "first choice option" for stakeholders engaging communities in the built environment.

WHO SHOULD SPEAK TO THIS COMPANY?

Local authorities involved in city planning, and construction companies

CASE STUDY ⁴

Commonplace helped Waltham Forest, a borough in London, improve and promote cycle routes and public spaces through its "Mini Holland" project. Approximately 5% of the local population provided more than 15,000 comments on a Commonplace portal over 18 months. This inquiry led planners to realise that there was a disconnect between the needs of local businesses and visitors to the area. The Commonplace platform allowed all parties to debate relevant issues and vote on solutions. The results of the project are impressive: walking and cycling increased by an average of 41 minutes per resident, and a Kings College report determined that the changes increased the life expectancy of children living in the borough by six weeks.⁵

STATEUP VIEW

In a competitive citizen engagement market, Commonplace has carved out a niche by focusing on planning and the built environment. The move is bold: while the sector is known as conservative and slow to change, there is ample ground for innovation. The approach appears to be paying off. Commonplace reportedly has worked with 200 customers to date, and processed more than 1.4 million responses. Investors are excited too; Commonplace closed a £3 million Series A mid-pandemic, led by Beringea—known for offering patient capital.

Alongside its focus on local authorities and regional governments in the UK, Commonplace is working hard to build strong relations with industry. The approach is prudent on two fronts. First, it offers an alternative revenue stream to the peaks and troughs of government contracting. Second, as urban regeneration continues, and receives increased investment, it places Commonplace well to be the hub for an industry-wide ecosystem, moving beyond the silos that have often characterised ways of working in the built environment sector. As infrastructure and the broader built environment increasingly operate as a 'system of systems', and collaborative project delivery models become normalised, this cooperation will be essential.

¹ Commonplace on LinkedIn

² Community Engagement | Online Engagement Platform

³ Planning Consultations | Digital Public Consultations

⁴ Creating 'Mini Holland' in Waltham Forest

⁵ Controversial Mini Holland scheme celebrates five year anniversary

AMP ROBOTICS

AUTOMATES WASTE SORTING. AMP'S AUTOMATION IS INCREASING RECYCLERS' PROFIT MARGINS

COMPANY SUMMARY

Founded in 2015

Total Funding: £57.7 million ^{1,2}

Latest Funding: Series B, £40.3 million

Revenue band: Not supplied

Lead investors: Sequoia Capital, XN, Valor Equity Partners, and GV

Office: Colorado, US (HQ).

FTEs: 50-100

Key clients/partners: Emmet County Department of Public Works and Boulder County Recycling Facility; Waste Connections, Ryohshin.

Key execs: Matanya Horowitz, CEO and Founder: PhD Controls and Dynamical Systems, Caltech, BSc Electrical Engineering and Computer Science, University of Colorado Boulder

PROFILE

Sorting waste effectively, safely and cost-efficiently is one of the biggest challenges facing the recycling industry. Waste items can be hazardous, and with items that are hybrids of recyclable and non-recyclable material, it can be difficult to isolate the former. This process is costly, but failure is costlier—sorted material can be rejected for not meeting industry standards and buyer specifications for quality.³

AMP Robotics combines cloud analytics, computer vision algorithms and robots to automate and optimize sorting. AMP Cortex™ is the brains of the system. It consists of a suction cup attached to three robotic arms and designed to hang above the sorting conveyor belt. AMP Neuron™ forms the brains of the robotics system. It involves a camera that relays image data to deep learning neural networks hosted on the cloud. The use of machine learning means that AMP's product is constantly improving in sorting waste. Materials recovery facilities (MRFs) can also analyze data stored on the cloud to inform decision making.⁴

AMP is germane to industry trends. Before the coronavirus pandemic, automating sorting already had a strong business case: there were labour shortages due to the danger associated with sorting;⁵ in 2018, China, once the world's largest recyclables market, imposed strict restrictions on waste imports.⁶ Automation is also more efficient. While humans make 20-40 picks per minute, newer robots make 60-80 picks per minute.⁷ The pandemic has seen labour shortages stiffen due to added fears of handling coronavirus-contaminated waste.⁸ Recycling has also risen up the policy agenda as a way to mitigate climate change.

PLANS FOR 2021

- Off a strong Series B, AMP is expanding outside the US. It is currently also in Canada, Japan and Spain.
- Greater market traction in the sortation of electronic, construction and demolition waste.

WHO SHOULD SPEAK TO THIS COMPANY?

Public Works/Infrastructure Departments, MRFs, Construction Companies, Sorting Robotics Companies.

CASE STUDY ⁹

Buffeted by low levels of unemployment before the pandemic, Recycling & Disposal Solutions of Virginia (RDS) turned to AMP Robotics to address its shortage of sorters. Installing the four robots RDS needed did not require many changes to

RDS' infrastructure and before long they were up and running. The robots have reportedly led to improvements on many fronts. They sort faster and more accurately than humans. They have improved on their own picking speed since being installed, thanks to Neuron's deep learning capabilities. As a result, RDS has been able to increase both quantity and quality of extracted commodities. Labour cost-savings have enabled RDS to restructure employment towards higher skilled positions. RDS hired a robotics expert to a management position and retrained a sort line employee to maintain the robots, a higher-paid role. RDS has also been better able to weather the coronavirus-induced disruption as the robots do not fall sick or require protective equipment. Finally, RDS is now able to measure the effects of process changes on productivity because AMP's cloud technology captures and continually analyzes these metrics.

STATEUP VIEW ¹⁰

AMP products provide quintessential automation deliverables: reduced operational costs, optimized commodity quality and lowered risk to human safety. But the masterstroke is pioneering advanced automation in waste sorting. Three reasons we think that first mover advantage will provide a long lasting edge in waste sorting: First, product development is capital-intensive and costly, a barrier to entry only somewhat counteracted by the availability of VC capital. Second, customer lock-in is likely—AMP charges a hefty \$300,000 for its Cortex and Neuron pairing, meaning long-term horizons for return on investment; the products are themselves durable and more importantly, self-improving. Third, scale should bring lower production costs per robot and aggregated, anonymized data from customers is valuable fodder for fine-tuning deep-learning parameters.

With existing competition, AMP's hard-to-replicate deep learning capabilities and innovative revenue strategy should provide the edge. A testament to the difficulty of arriving at a working AI product is AMP's partnership with Machinex, an established sorting robotics company. In 2018, AMP began providing the AI behind Machinex's sorting robot, SamurAI. Finally, in a low margins industry like recycling, selling an expensive product can be difficult. Here, AMP's \$6,000 a month lease option reduces upfront costs for MRFs and locks such customers into long-term contracts.

¹ Rise of the recycling robots

² Amp robotics innovation

³ Operations and Economics of the MRF

⁴ AMP Cortex

⁵ Robots move in

⁶ Piling Up: How China's Ban on Importing Waste Has Stalled Global Recycling

⁷ Robots move in

⁸ At least 8 states suspend bottle bill requirements during coronavirus pandemic

⁹ Customer Success Story — AMP Robotics

¹⁰ Rise of the recycling robots

¹¹ Machinex sells nine SamurAI units

SPACEPT

SPACEPT PROVIDES REMOTE INFRASTRUCTURE INSPECTION SOFTWARE. SPACEPT'S INSPECTION SOFTWARE HELPS PREVENT WILDFIRES AND THEIR CO₂ EMISSIONS.

FOUNDED IN 2019

Total Funding: £239,500

Revenue band: £100-500,000

Lead investors: European Space Agency Business Incubation Centre, Antler, Katapult

Office: Stockholm, Sweden (HQ), Oslo, Norway, New York, US.

FTEs: 1-10

Key clients/partners: Spacept is partnered with Planet, Airbus, UP42, Skyflox and Sterblue. E.ON is a key client.

Key execs: Eric Langenskiöld, CEO and Co-Founder: also Executive Advisor Evolver, Founder and Senior Consultant, BXG, previously Co-Founder Leadfront and Stormförs Digital Agency; Sergiu Iliev, CTO and Co-Founder: MEng Aeronautical Engineering, Imperial College London, also Aerospace Engineering Consultant at Outsmart Insight, Graduate Researcher at Carnegie Mellon University, previously Investment Banking Analyst at CitiBank.

PROFILE

Powerline-vegetation interactions are a leading cause of wildfires and power outages. A tree falling into a line, a branch sitting across two line conductors¹ – however it happens, vegetation close to energy infrastructure typically poses a safety risk. Energy and utility companies favour preventative risk mitigation, but this does not always work. For example, regular tree trimming falls flat against fast growing tree species. Thus, it is beneficial to also have monitoring mechanisms.² However, companies balk at the cost of frequent monitoring; for example, helicopter-based monitoring can cost £3000 per day. Drones are cheaper but their use is being hindered by difficult regulation.³

Spacept is an early stage startup working on a cost-effective platform for early warning and rapid response to vegetation-induced powerline disruptions. Its infrastructure inspection software is driven by computer vision analysis of earth observation satellite data. Specifically, the inspection software crunches images of powerline systems, weighing factors like vegetation type, season and infrastructure quality, before providing a form of risk assessment.⁴ This remote monitoring allows for a cheaper offering than both drones and helicopters.

The policy response to wildfires is enmeshed in national disaster response and climate change policies. Both areas have been boosted by worsening global weather. For example, Australia's 2019 wildfire released about 900 million tons of carbon dioxide into the atmosphere⁵; expectations of worse fires have put pressure on the Australian government to set a deadline for net-zero emissions⁶ and update its national warning system.⁷ Spacept's solution can help with implementing both disaster response and climate change goals.

PLANS FOR 2021

- Spacept plans to launch its API and expand product use cases, including satellite alerts for road and railway lights replacement, and detecting oil deposits and spills across water bodies.
- Spacept also plans to consolidate on its US expansion.
- It is making key hires in business development and sales.

WHO SHOULD SPEAK TO THIS COMPANY?

Government Disaster Management Agencies, Power/Utility companies, Energy maintenance companies

COMPANY IN ACTION⁸

Spacept downloads satellite imagery of the client's infrastructure system from one of Spacept's providers (including Airbus Defence and Space and the European Space Agency's Copernicus). This data is analyzed by its computer vision algorithms on AWS' cloud computing platform. The analysis involves segmenting the image, identifying individual trees and their shadows, and making distinctions between vegetation and energy assets. The machine learning algorithms use the tree shadows to determine their height, using this and other data to make an assessment of encroachment threats.⁹ The system also takes season, climate and other potential confounders into account when making a risk assessment.

STATEUP VIEW

For CTO Sergiu Iliev, the focus is scale.¹⁰ As a data analytics player, scale equals product refinement—more data and use cases for Spacept's machine learning algorithms, enabling them to successfully handle even higher volumes. One way Spacept has courted scale is via distributed hiring; it has 38 remote developers across 16 countries. Distributed hiring broadens access to specialized talent and reduces overhead costs; it enabled Spacept to train algorithms faster and more accurately.¹¹

But while distributed hiring is pushing the product, it is contributing to a challenge the startup faces—product-market fit. First, customer acquisition in the powerline industry simply takes too long for a Spacept looking to rapidly iterate on product development. Furthermore, Spacept tells us government players in the industry are wary of a young startup with little local presence. Low traction means fewer use cases and slower product refinement.

Spacept is responding in two ways: partnering with startups and broadening its potential applications. Partnerships with Skyflox, which captures earth imagery from airplanes, and Sterblue, which provides granular inspection, expand its offering and customer base. It is also expanding to more linear infrastructure: hydroelectric plants, railways, roadways and pipelines. For example, Spacept is working with University of Cambridge students to scour the ocean for oil leaks from underwater pipelines.¹² Executed properly, both strategies should see Spacept head off powerline-related headwinds.

1 How Do Power Lines Cause Wildfires?

2 A Data-Driven Approach for Predicting Vegetation-Related Outages in Power Distribution Systems

3 Drones for Power Line Inspections

4 Startup-företag vill förebygga skogsbränder med AI

5 How utility companies can save lives with AI from space

6 Biden climate change plan puts heat on coal addicted Australia before bushfire season

7 Bushfire royal commissioner urges review into alert system to be expedited

8 How Spacept Are Using Artificial Intelligence And Satellite Imagery To Tackle Climate Change

9 Spacept

10 Satellite Image Post Processing : An Interview with Sergiu Iliev

11 How Spacept Are Using Artificial Intelligence And Satellite Imagery To Tackle Climate Change

12 Satellite Image Post Processing : An Interview with Sergiu Iliev

PRIVITAR

HELPING ORGANISATIONS TO REALISE THE VALUE OF SENSITIVE DATA THROUGH DATA PRIVACY SOFTWARE THAT DE-IDENTIFIES DATA, MINIMISES RISK AND ACHIEVES REGULATORY COMPLIANCE

COMPANY SUMMARY

Founded in 2014

Total funding £113 million

Latest venture round: Series C, £65 million

Investors include HSBC Venture Capital Coverage Group, Warburg Pincus, Accel, Partech, AstraZeneca

200 FTEs

Key clients/partners includes the NHS, Eastern AHSN

Key executives: Jason du Preez, Co-Founder and CEO: serial entrepreneur, enterprise software architect; Jason McFall, CTO: physicist (Stanford, Imperial, Oxford), data analytics expert; John Taysom, Co-Founder and Non-executive Director: venture investor, visiting fellow/data privacy researcher at Cambridge, Harvard, and UCL.

PROFILE

Organisations are collecting and processing an unprecedented amount of data. Where personal data is involved, privacy risks for individuals can emerge. These risks can be particularly acute for public sector organisations, which process highly sensitive personal data, such as health records (for example, the National Health Service) or financial data (for example, Her Majesty's Revenue and Customs).

By delivering comprehensive data privacy techniques and streamlining data provisioning via the Privitar Data Privacy Platform™, Privitar ensures that sensitive data is safe and usable. It thus helps organisations to realise the value of data that they collect, manage, and use, including to support decision-making, while minimising risk. Privitar empowers organisations to define, manage, and apply consistent data privacy policies across locations and data environments while optimising data utility and privacy by applying privacy policies to data according to context while controlling data linkability in the dataset provisioned for each request. By integrating with cloud and on-premise data pipeline technologies via APIs, the platform automates data privacy, which helps organisations enforce policies for data distribution, access, and expiration by tagging datasets with immutable metadata. Organisations can thus observe data policies by design.

The platform also facilitates forensic investigations, particularly important in the case of data breaches, through the addition of Watermarks that describe data provenance, making it easy to track down the data's origin should it be compromised. In addition, the web-based user interface enables non-technical users to manage data privacy without deep knowledge of privacy engineering.

Privitar are experts on the policy and regulatory context in which their clients operate. Deep understanding of privacy developments in law, regulation, and academia inform their product offering.

PLANS FOR 2021

- Continue developing Data Privacy Platform.
- Expand capabilities in enhanced privacy risk management, automated privacy protection, regulatory-focused solutions, and enhancements for cloud platforms.

WHO SHOULD SPEAK TO THIS COMPANY?

Public sector organisations that collect, use, and manage sensitive data.

CASE STUDY

The NHS comprises hundreds of independent trusts that cannot easily share data with each other. It also holds a remarkable corpus of data from tens of millions of English citizens. For researchers and medical professionals to make use of their data, it must be accessible in a central location.

Because of the sensitive nature of patient data, the highest level of encryption and anonymity is also crucial. Privitar was selected by NHS Digital, which provides information and technology services for the healthcare system in England, to protect the privacy of their patients and citizens, to ensure their trusts maintain control of their data, and to track and trace the de-identified datasets they produce.

Privitar took a three-pronged approach to the task:

- Privitar's SecureLink enabled NHS trusts to share data anonymously and securely.
- Privitar ensured that analysts only have access to the information the NHS wanted them to see by creating Protected Data Domains, which prevent separate datasets from being linked together to create larger datasets.
- Privitar's Data Privacy Platform allowed researchers to securely de-identify data points. This software preserves the patterns that make the data useful without revealing patients' sensitive personal information.

In engaging these privacy-preserving technologies, the NHS was able both to be accountable to their patients and their trusts, and to realise the value of their data to improve their capacity to run an efficient, modern healthcare system.

STATEUP VIEW

The increased uptake of technologies from cloud computing to artificial intelligence in the public sector is amplifying the need to ensure that aggregated data collected by its organisations are both accessible and secure. In a context where sophisticated cyberattacks are increasingly targeting government organisations, Privitar's offerings are likely only to grow in popularity.

Privitar is setting the benchmark for good practice in data privacy. We particularly appreciate their use of watermarks to move beyond the 'security theatre' of contracts and assurances regarding data use and breaches. When there are many recipients of the same data, each has plausible deniability around a breach because it could have come from any recipient. A watermark removes that deniability because it inextricably links each recipient to their specific copy of the data. From a statistical perspective all of the copies are the same, but from a security perspective they are no longer fungible. It is also good to see Differential Privacy in use because it again offers provable guarantees.

Importantly, it is clear that Privitar understands the policy side of data security equally as well as the technical side. The company is investing in research around how technology can keep citizens' data private while also allowing it to be used for the public good.

HEALTHY.IO

DIGITIZES HEALTHCARE DELIVERY VIA SMARTPHONE APPS. HEALTHY.IO PROVIDES ACCESSIBLE HEALTHCARE SOLUTIONS FOR MILLIONS WITH UNDETECTED AND CHRONIC CONDITIONS.

COMPANY SUMMARY

Founded in 2013

Total Funding: £69 million

Latest Funding: Series C, £45.5 million

Revenue band: Not supplied

Lead investors: Corner Ventures, Aleph, Quantum Pacific Ventures

Office: Tel Aviv-Yafo, IL (HQ); Boston, US; London, UK

FTEs: 100-250

Key clients/partners: NHS UK, Dutch Kidney Foundation,

University Medical Centre Groningen¹, US National Kidney Foundation, Geisinger²

Key execs: Yonatan Adiri, CEO and Founder: Founder Disruption Labs, Co-founder Getaround.com, Previously Chief Technology Officer for the President of Israel; Ron Zohar, CPO: Cofounder at Groovideo, previously Mobile Product Manager at Fiverr; Katherine Ward, CCO: previously Chief Growth Officer at Optum International, 15 years of experience at NHS UK and 11 years at UnitedHealth Group.

PROFILE

Poor access to healthcare is linked to increased hospitalization for preventable diseases, poor management of chronic diseases, and higher risk of terminal illnesses. Steep care expenses and limited service provision are key drivers of healthcare inaccessibility. Healthy.io's product offerings seek to equalize healthcare access by placing the ability to detect and diagnose certain conditions in a more accessible, cost effective form – the smartphone camera.

Healthy.io has received regulatory approval from the FDA and CE, including two 510(k) clearances from the FDA – one for the company's general home urinalysis test called Dip.io and another for point of care use of the company's ACR test. Additionally, the company's digital wound management solution is registered with the FDA.

Dip.io is useful for self-management in hypertensive pregnancies, and detecting, amongst others, Uterine Tract Infections and Chronic Kidney Disease (CKD).³ Its ACR product is further down the service chain of medical care for CKD. To diagnose CKD, it tests urine for increased excretion of Albumin (the most common protein in urine), using a measure called the Albumin-to-Creatinine Ratio (ACR).⁴ SPOT scans, measures, analyzes and documents wound dimensions to help clinicians manage chronic injury.⁵

Healthy.io's approach sits within maturing policy spaces. Digital healthcare has witnessed sustained but slow public attention and investment over the past decade. However, the COVID-19 pandemic has catalyzed public and private activity in this area. For example, the US public health emergency declaration has unlocked immediate funding for telehealth⁶, although the US Congress is more conservative about long-term investment.⁷ Remote patient monitoring applications such as Dip.io can ride on the coattails of this increased attention. There should also be sympathetic policy developments for DIY healthcare, especially for chronic conditions, which require regular check ups.

PLANS FOR 2021

– In September 2020, Healthy.io won a three-year, £140 million Artificial Intelligence in Healthcare Award from the NHS to deploy its technologies to NHS sites.

WHO SHOULD SPEAK TO THIS COMPANY?

Healthcare service providers

COMPANY IN ACTION⁸⁹

The Dip.io test kit can be referred to anyone whose suspected condition can be further investigated using urinalysis. The person would be given the Dip.io kit and a referral link to download the accompanying app. The kit holds a small plastic cup, disposable dipsticks (thin plastic strips, each with 10 chemical pads that change colour in the presence of specific compounds), and a colour board. Upon downloading the app, a chatbot called Emily guides the person through the process of filling the plastic cup with urine, immersing the dipstick into the cup, and taking a picture of the dipstick appended against the colour board.

The app uploads the image to the cloud, where computer vision algorithms analyse the chemical pads' colours, which reveal levels of key compounds like protein. This process lasts up to one minute, after which the results are sent to the person's electronic medical record.

STATEUP VIEW

Although imperfect, developed-country healthcare is often long established with entrenched business models. Here, startups struggle to translate ideas to commercially viable business models.¹¹ With Healthy.io, we see a company with a shrewd playbook for commercialisation.

The market segment Healthy.io targets involves people who do not access the healthcare solutions they should, and are thus low-hanging fruit. Many who should take urine tests do not, due to either a lack of awareness or inconvenience. For example, the US' Healthy People 2020 objective to "[increase] the proportion of persons with [CKD] who know they have impaired renal function" would be met if a measly 13.4 percent of the target population become aware.¹²

In 2017, the company entered Dip.io into the NHS Innovation Accelerator.¹³ They have aggressively deepened this partnership since, and recently won a £140 million NHS award. But Healthy.io also seems to be using collaboration as a launchpad for loftier goals. While Dip.io is a pharmacy-first service, it has quietly introduced a direct-to-consumer channel via the UK-only Velieve app. Velieve conducts a similar test for UTIs and does not require a referral.¹⁴

1 Smartphone screening project for kidney disease launched in the Netherlands –

2 New Home Test for Kidney Damage Shows Promising Results

3 Dip.io | NHS Innovation Accelerator

4 Healthy.io secures FDA approval and £48m funding for ACR test

5 SPOT – Wound Management

6 Transatlantic Trade: US and European Trade Talk Update – October 9, 2020

7 The future of telehealth post-COVID

8 Can't go to the doctor? You already own a powerful medical device

9 App review: Dip.io brings urinalysis to your smartphone

10 Healthy.io app marries machine learning and medicine

11 Digital health market is hot, but startups still struggle to create sustainable business models

12 Chronic Kidney Disease | Healthy People 2020

13 Dip.io | NHS Innovation Accelerator

14 Velieve – Apps on Google Play

IRYS

CREATING BETTER COMMUNITIES AND URBAN ENVIRONMENTS BY FACILITATING COMMUNICATIONS AND ANALYTICS

COMPANY SUMMARY

Founded in 2014

Total funding: £930,000

Latest funding round: £930,000 (Seed)

Investors include Good Growth Capital, Techstars

Offices in Mexico and the US

Approx. 15 FTEs¹

Key clients: San Antonio, Texas city government; Joint Base San Antonio, Texas; Cuauhtémoc neighbourhood

government, Mexico City; government of Mexico State; Tampico local government, Mexico.

Key executives: Beto Altamarino, CEO: experience in government (Texas House of Representatives, US Senate, White House); Alberto Gomez, COO: academic background in civic participation, tech, and innovation; Eduardo Bravo, CFO: former consultant at EY, expert in US-Mexico relations.

PROFILE

Half the world's population lives in cities, and by 2050 the UN estimates this figure will rise to 70%. A host of practical problems accompany this massive urban growth, from improper rubbish collection to infrastructure issues and illegal price gouging. Irys offers AI-driven products to bring real-time visibility and analytics to urban stakeholders, helping them to address these issues efficiently.

The Irys I.AM platform improves public infrastructure management by connecting government officials with the right local agencies to identify, track, and resolve issues in the community through the official's smartphone. Irys' Community app has a similar function to the I.AM platform but is public-facing, allowing residents to report non-emergency issues to local government officials. The product is an enhanced version of 311 services, a common system in the US for reporting non-emergency problems to local municipalities. However, instead of relying on lengthy (and potentially costly) phone calls, citizens can make reports directly through the Irys Community app.

Irys also provides local communications solutions tailored specifically to military communities, as well as an app to track and trace Covid-19. Additionally, the startup increasingly serves private sector organisations such as urban design and engineering firms that are looking to better understand the needs of the communities in which they do business.

PLANS FOR 2021

- Expand from 15 to 35 city and local government clients in the US and internationally.
- Scalable growth in the US military sector, having cleared in 2020 cybersecurity and bureaucratic processes that dramatically reduce barriers to entry.
- Leverage new partnership with multinational consulting firm Arcadis to target urban design, consulting, and engineering firms, with the aim of significant growth within the urban technology space.

WHO SHOULD SPEAK TO THIS COMPANY?

Local municipalities and military base managers looking to digitalise and optimise their communications with citizens. Urban design, consulting, and engineering firms interested in understanding citizens' opinions on major infrastructure projects.

COMPANY IN ACTION²

Irys recently won a \$1.15 million Small Business Innovation Research (SBIR) contract with the US Department of Defence to provide services to Air Force bases.³ The Air Force is leveraging Irys' platforms to manage on-site infrastructure and housing needs at its Joint Base San Antonio (JBSA). This base is the largest joint base installation in the Department of Defense. It is home to a diverse community that includes active duty and reserve members of the military, civilian contractors, and their families. The Air Force expects Irys' platforms to ensure that the leadership's priorities are in line with the diverse needs of the broader community, promoting social cohesion.

STATEUP VIEW

Irys' growth in 2020 puts it on a strong trajectory for 2021. Its successful SBIR contract with the Department of Defence is an important foray into a large market. Military funding has the potential to be a lucrative and consistent revenue stream. Now that Irys has managed to navigate through the bureaucratic and security hurdles of DoD procurement, future military contracts may be significantly easier to secure.

Irys is based in San Antonio, Texas, where it has successfully cultivated relationships with local government officials. The startup has also worked extensively in Latin America, with over 400 city employees in Tampico, Mexico using Irys' platform to manage public works operations. Their ability to operate across distinct cultures is a major asset for a company that thrives on relationships with local public sector and industry leaders.

The management team made a prudent decision to partner with Arcadis. This connection will increase Irys' competitiveness when bidding on contracts to work with urban design, consulting, and engineering firms. This large addressable market will quell any concerns investors have about a potential overreliance on public sector contracts.

¹ Gov Tech Startup Irys Wins \$1.15M Air Force Contract

² Gov Tech Startup Irys Wins \$1.15M Air Force Contract

³ Startups To Watch: Irys, Mission Control, Rah Rah, Buzz Solutions

TRAFI

TRAFI BUILDS LOCAL, ACCOUNTABLE DIGITAL MOBILITY AS A SERVICE APPS IN PARTNERSHIP WITH CITIES

COMPANY SUMMARY

Founded in 2007¹

Total Funding: estimated at almost £21 million²

Latest Funding: Series B, figure not disclosed but estimated at almost £10 million³

Lead investors: Sumitomo Corporation, Aioi Nissay Dowa Insurance, Octopus, European Bank for Reconstruction and Development⁴

Office: Vilnius, London, Berlin, Paris⁵

FTEs: 51-100⁶

Key clients/partners: city of Berlin, city of Munich, Swiss state; Google, Apple, Lyft, Gojek.⁷

Key execs: Martynas Gudonavičius, CEO and Co-Founder, BA Business Administration from the Kaunas University of Technology; Dr. Jurgis Pasukonis, Chief Scientist & Co-Founder; Mantas Vizbaras, COO & Co-founder, previously at Traceworks; Algimantas Krasauskas, Co-Founder.

PROFILE

Transport remains one of the biggest contributors to total greenhouse gas emissions, and private transport, like cars, are a large share of this. Yet public transport, across much of the world, is uncoordinated, poorly-funded, and confusing to travellers.

Trafi's answer is an app that brings together data on all available public and private transport routes, by any mode of transport, and maps out a journey for the user, thereby providing an alternative to the use of private cars. It encourages cities to retain control over their transport coordination rather than hand it over to a private operator, on grounds that cities are more likely to be fair, independent arbitrators.

It is not the only Mobility as a Service (MaaS) app on the scene, but unlike some of its competitors it has discovered a sound business model in direct cooperation with cities. Other MaaS apps, which mostly operate independently of city administrations, have struggled to make revenue out of their services.⁸ Trafi's apps are developed in partnership with municipal administrations. The range of each app is limited to a particular city or, more recently, country: the app Yumuv, released in August, covers the whole of Switzerland. Although each app uses the same platform, they do not currently share data. Additionally, it has created its own data management platform, which it updates continuously and makes available to third parties.⁹ They have worked with Google Maps and Gojek.¹⁰

PLANS FOR 2021

- Expanding to new cities in western Europe and Latin America
- Experimenting with a “roaming” model in which a Trafi MaaS app designed for one city could be used in any other city that is covered by a Trafi MaaS app.

WHO SHOULD SPEAK TO THIS COMPANY?

Public transport authorities, public transport operators

CASE STUDY

Jelbi is Trafi's bespoke MaaS app for the city of Berlin. It lists 8 different forms of transport, connecting 27,000 vehicles, which include all public transport services and on-demand providers like Next Bike, Tier and Voi kick scooters, Berlin taxi and Miles. Its interface mixes elements of a rideshare app and a conventional MaaS app: the user can enter a destination and it will calculate a route, with prices and ETA, or its homepage can be used to: find the nearest scooter, shared car, or bike; get to a nearby train or tram station; or summon a taxi or a BerlKönig, Berlin's unique six-person rideshare. It is available in a number of languages.

STATEUP VIEW

Jelbi has been very popular in Berlin since it was first piloted in 2019. It boasts considerable environmental benefits: by offering shared cycling on an equal footing with fossil fuel-powered transport it hopes to increase the use of these zero-emission alternatives. Trafi has also demonstrated that it is capable of expanding into the Global South: it has solved the problem of including informal, community-run private transport, like the colectivos in certain Latin American cities, in its app, by mapping out networks and usual stopping points.¹¹

It has two major advantages over many other MaaS apps. The first is its business model: MaaS apps have proven notoriously difficult to monetise effectively. By negotiating contracts directly with state governments, Trafi may be ensuring itself a stable income stream. The second is that since the app belongs to the city authority, it is possible to purchase tickets and make payments directly through the app. Trafi faces competition from some rideshare apps, which are also pitching to coordinate public transport systems, but will likely benefit from its clean reputation compared with growing scepticism of the rideshare business model.¹²

¹ Has Trafi cracked mobility-as-a-service where others have failed?

² Has Trafi cracked mobility-as-a-service where others have failed?

³ Has Trafi cracked mobility-as-a-service where others have failed?

⁴ Trafi on Crunchbase, Has Trafi cracked mobility-as-a-service where others have failed?

⁵ Trafi on Crunchbase

⁶ Trafi on Crunchbase

⁷ Has Trafi cracked mobility-as-a-service where others have failed?

⁸ The Struggle to Make 'Mobility as a Service' Make Money

⁹ Trafi providing accurate transit data: the cornerstone to progress in urban mobility

¹⁰ Trafi providing accurate transit data: the cornerstone to progress in urban mobility; Trafi app shows the fastest way from A to B

¹¹ Has Trafi cracked mobility-as-a-service where others have failed?

¹² Solutions | Via Transportation; Partnering with Transit Systems | Community

CERA

AI-DRIVEN CARE PLATFORM ENABLING OVER 25,000 CARE VISITS EACH DAY

COMPANY SUMMARY

Founded in 2016

Total funding £74 million

Latest venture round: £54 million

Revenue: \$120m in less than four years¹

Investors include Kairos, Guinness Asset Management

200 FTEs, 5,000 carers

Key clients/partners: NHS, UKHCA, Care Inspectorate Wales, UK Government Department for Health and Social Care

Key executives: Dr. Ben Maruthappu, Co-founder and CEO: medical doctor and senior NHS advisor; Yvonne Hignell, COO: veteran health and social care executive; Igal Aciman, Chief Commercial Officer: entrepreneur that has led two successful exits, former McKinsey consultant, Harvard MBA; Horus Patel, CTO: formerly led Data and Technology for Reed.co.uk.

PROFILE

The British population is aging: currently around a fifth of Britons are over 65, and this number is expected to increase to a quarter by 2050.² Cera partners with more than 100 local governments and NHS trusts to deliver care services to elderly and vulnerable patients.

Cera's core technology offering is a digital interface connecting caregivers and recipients or their families. The platform digitalises and automates the coordination, management and monitoring of home visits. It also optimises homecare matching, using filters like area, language, and type of care-giving experience. Results to date have included better health outcomes for patients, and higher staff retention rates and lower overheads for organisations provisioning social care.

Through its digital infrastructure, Cera collects lots of data about their patients—from eating schedules to symptoms they may be experiencing. Recently, Cera has launched an AI-powered platform, SmartCare, which leverages this data to predict healthcare needs of their patients and promote preventative interventions. CEO Dr. Mahiben Maruthappu reports that their SmartCare technology allows them to identify and respond to changes in user health 30x faster than other care providers. The ultimate goal of using these algorithms is to reduce hospitalisations, lower caregivers costs for healthcare providers, and improve patients' health. SmartCare's machine learning algorithm has reportedly already predicted more than 700 previously undetected health issues at an accuracy rate of 82%.³ The algorithm enables Cera to provide patients with a highly personalised service.⁴

The company actively recruits carers and is the UK Government Department for Health and Social Care's recruitment technology partner. Cera partnered with DHSC to create www.JoinSocialCare.co.uk, which has had tens of thousands of applicants to apply to work in care. Thousands of care providers also offer roles through the platform. Cera provides training to new caregivers, and is targeting former workers in the hospitality, retail, and travel sectors whose jobs were impacted by the coronavirus pandemic. They currently deliver 25,000 home visits every day.

PLANS FOR 2021

- Filled 5,000 jobs in 2020 and anticipates an additional 5,000 jobs in 2021.
- Cera anticipates that its recent expansion to Scotland puts it on track to double sales by 2022.⁵

WHO SHOULD SPEAK TO THIS COMPANY?

Healthcare providers and public sector organisations involved in the provisioning of social care.

COMPANY IN ACTION

Cera's AI-powered Concern Predictor tool analyses carers' reports, looking at both structured data (specific health observations) and free text (using sentiment analysis). The system triggers an alert when it predicts a higher likelihood of a fall or hospital admission. A regional care manager then manually investigates this report and takes action if deemed necessary. Each day, Concern Predictor analyses upwards of 500 cases.⁶

STATEUP VIEW

Cera's remarkable growth in less than 5 years suggests it is addressing a real need. The executive team, led by Dr. Mahiben Maruthappu, brings notable healthcare, commercial, and technical expertise. Cera is already deeply embedded in the UK healthcare ecosystem, and there are clear opportunities for expansion to Europe.

Cera's core product relies on a steady supply of carers. This positions them well for the post-Covid environment, with a large supply of workers looking to reskill to fit the changing economy. Mass onboarding requires careful management to ensure high standards of care and both user and employee satisfaction.

Cera's use of AI aims to cut costs and improve outcomes. The use of AI for health and social care is both useful and sensitive. As Cera further develops its AI offering, ensuring patient confidentiality will be paramount.

1 HealthTech Cera to create 5,000 new UK jobs

2 Fears of Demographic Timebomb in the UK are unfounded, says study

3 Cera Care launches AI platform, bags £54m in new funding

4 Cera launches SmartCare technology nationwide following \$70 million financing boost

5 HealthTech Cera to create 5,000 new UK jobs

6 Predictive analytics to assess risk and trigger care interventions

LOGISTIMO

LOGISTIMO'S APP PROVIDES REAL-TIME MONITORING OF SUPPLY CHAINS BRINGING MEDICINES TO ISOLATED RURAL AREAS

COMPANY SUMMARY

Founded in 2011¹

Total funding: Not provided

Latest round: Not provided

Revenue band: Not provided

Key investors: Khosla Impact Fund

Headquarters: Bangalore

FTEs: 20-40²

Key clients/partners: governments and state governments of Angola, India, Indonesia, DRC, Uganda

Key executives: Anup Akkihal, Co-founder and CEO, MEng from MIT; Sharath Chandangoudar, Co-founder and Director of Operations, previously at Logistics for Global Good; Amit Akkihal, Co-founder and Director of Strategy; Arun Ramanujapuram, Co-founder and CTO, previously at Yahoo! Labs.

PROFILE

In much of Asia and Africa, rural areas without advanced infrastructure remain inaccessible to deliveries of medical supplies. This problem has become critical with the spread of novel diseases across both continents, such as MERS, Ebola, and Covid-19.

Logistimo's answer is an app that monitors supply chains. It can keep track of inventories and alert the user in case of understocking or overstocking. Its algorithm can forecast changes in demand, and thereby predict and take action to prevent shortages. Most importantly for vaccination programmes, it can also monitor cold storage in transit, warning the user of any temperature changes.³ It is active in 8 Asian and African countries.⁴

Logistimo has already been flagged up as an important actor in the response to Covid-19. As far back as May, several Indian states started using it to transport samples of the virus.⁵ The Harvard Business Review has praised its app as an example of the kind of advanced supply chain monitoring that will be needed for mass vaccine rollouts.⁶ Countries that employ its services to deliver Covid vaccines might also be inclined to engage it again for more general medical initiatives.

PLANS FOR 2021

- Work on delivery of the Covid vaccine
- Expansion to 12-15 countries is expected very soon, as countries step up supply chain coordination efforts in light of the pandemic.

WHO SHOULD SPEAK TO THIS COMPANY?

Regional and national health departments

CASE STUDY

The province of South Kivu in DRC, which has been the focus point of a series of wars, has suffered widespread sexual violence, affecting hundreds of thousands of women. However, many of its communities are cut off from medical supplies vital to prevent HIV and unwanted pregnancy. Logistimo provided Panzi Hospital, a medical centre in the province's capital that specialises in treating the effects of sexual violence, with a live reporting software that its staff could use to flag up shortages in the "Prévention" kits that they hand out to survivors of sexual violence as part of their Prevention Pack Programme. Between 2013 and 2017, the programme was able to hand out 2081 kits in an unstable, remote area without running into any shortages.⁷

STATEUP VIEW

Logistimo's CEO claims that its services saved India \$75 million in vaccine supply operating costs in 2018.⁸ And it also has an environmental pitch: its use of AI algorithms to aggregate delivery routes can reportedly reduce CO2 emissions by between 68 and 117 tonnes per month.⁹ As novel viruses become ever more serious a problem, especially in the developing world, it is unlikely that there will be any drop in demand for its services.

Logistimo occupies a similar space to Zipline, which uses drones to carry medical supplies to isolated rural areas. Because Logistimo only uses existing infrastructure, its range is comparatively limited; however, many developing countries do not currently have the legal framework to engage with drones, so using existing infrastructure and technology could allow the company to scale up faster in developing contexts.

¹ Logistimo on Pitchbook

² Logistimo on Pitchbook

³ Cold chain monitoring

⁴ FT Health: An urgent need to invest in mental health

⁵ COVID-19 adaptations of the Logistimo platform | by Logistimo India Pvt. Ltd. | logistimo

⁶ A Covid-19 Vaccine Will Need Equitable, Global Distribution

⁷ Delivering integrated care after sexual violence in the Democratic Republic of the Congo

⁸ Impact investing in digital health services: treat with caution

⁹ Tusker Transport | India

ELEMENT

A DECENTRALISED, OPEN-SOURCE, END-TO-END ENCRYPTED MESSAGING AND COLLABORATION PLATFORM. IN JULY 2020, ELEMENT SECURED THE BIGGEST COLLABORATIVE SOFTWARE DEAL EVER MADE, SUPPLYING HALF A MILLION LICENCES TO THE GERMAN PUBLIC EDUCATION SYSTEM.

COMPANY SUMMARY

Founded in 2017 as New Vector; Rebranded as Element in 2020

Total funding: \$18.1 million

Latest funding round: Series A Extension, \$4.6 million

Revenue band: \$1m-\$5m

Lead investors: Automattic, Notion Capital, Dawn Capital, Firstminute Capital, Status.im

Offices: London, Rennes

FTEs: 51-100

Key clients/partners: French government; Germany: states of Schleswig-Holstein and Hamburg, the Bundeswehr, state schools; The Wikimedia Foundation; Amandine le Pape, co-founder and COO; BA in Telecoms, Electronics and Computer Science from CPE Lyon and an EMBA from Rennes School of Business.¹ Matthew Hodgson, co-founder and CEO/CTO; BA in Physics & Computer Science from the University of Cambridge.

PROFILE

Element is an open-source, end-to-end encrypted messaging and collaboration platform. Currently, governments looking to engage a third party service for their internal communications systems are presented with the problem of data sovereignty. Most services that offer end-to-end encryption, securing data from external attacks, nonetheless reserve control over data entered on their platform and over the functionality of the service itself.

Element is decentralised: data is stored with the client rather than the central provider, so its clients retain data sovereignty.² Because it is open-source and licence-free, it also offers more flexibility for clients than Slack and other similar services: its functionality can be adapted to purpose. For example, the French government has already adapted the software on which it is based, Matrix, into its own internal service, "Tchap".³ At the same time, it offers the possibility of interoperability with other messaging and collaboration platforms.

The broader aim of the company is to provide an alternative to centralised messaging services like Slack and Discord, which retain control of their clients' data, without sacrificing data security. As of January 2021, Element reported having 26 million users.⁴

PLANS FOR 2021

- Element is looking to bring more developers into its open-source network. It recently bought the developers' chat platform Gitter, and it has brought Gitter's 1.7 million users over to its own Matrix system.⁵
- It is seeking more collaboration with the public sector.⁶
- The product is due major changes to make it more accessible to new users.⁷

WHO SHOULD SPEAK TO THIS COMPANY?

Any government department or organisation, including those coordinating large numbers staff.

CASE STUDY

In 2018, the relatively new digital agency in the French government, DINSIC (now known as DINUM), approached Element (then New Vector) to request a deployment of the system for the government's own internal communications.

DINSIC had three requirements. The service needed to be federated: each department required its own specific system, but each one should also be connected to every other system. It should be end-to-end encrypted, which Matrix already was; and it should incorporate antivirus software. This was a challenge, since AV software and end-to-end encryption are generally incompatible. Element solved the problem by adding a facility for all documents to be exfiltrated to an external scanning service.⁸

Because the Matrix software is also used by some of France's other contractors, Element could also offer interoperability between the messaging systems of various organisations.⁹

STATEUP VIEW

Element is likely to become an essential provider of services to European governments, which seem to appreciate a local alternative to US giants like Slack, Microsoft and Google. It has also benefited from the growing urgency of digital sovereignty and from a wind blowing in favour of open source: several other open-source messaging services, like Mattermost and RocketChat, have been set up recently.

It is as important, therefore, for what it represents as for what it provides. The company sees itself as the forefront of a "grass-roots open-source movement" that could shift power away from opaque, centralised giants and return it to the wider community.¹⁰ While Element does still retain broad control over its product, it points the way to a more transparent and collaborative way of managing services.

It is certainly ambitious: it wants to bring big tech companies on board to turn Matrix into a decentralised communication layer of the web. Element reports working to further improve user experience.¹¹ Beyond the current focus on high-profile clients in the developed world, there is scope for expansion beyond it.

¹ Amandine Le Pape

² Secure messaging for Government & NGO communication | Riot.im is now Element.io; Slack-rival Element wins largest ever collaborative software deal

³ New Vector scores \$8.5M to plug more users into its open, decentralized messaging Matrix

⁴ Element Introduces Universal Secure Messaging

⁵ Element acquires Gitter to get more developers on board with the open Matrix messaging protocol

⁶ Slack-rival Element wins largest ever collaborative software deal

⁷ Automattic pumps \$4.6M into New Vector to help grow Matrix, an open, decentralized comms ecosystem

⁸ France enters the Matrix

⁹ Matrix and Riot confirmed as the basis for France's Secure Instant Messenger app

¹⁰ Slack-rival Element wins largest ever collaborative software deal

¹¹ France enters the Matrix; Element acquires Gitter to get more developers on board with the open Matrix messaging protocol

INFOGRID

ADDRESSING KEY BARRIERS TO SMART BUILDING ADOPTION.

COMPANY SUMMARY

Founded in 2018

Total funding £11.9 million

Latest funding round: Series A, £11.6 million

Lead investors include Northzone, Oxford Foundry

Office: London, UK (HQ); New York, US; Tallinn, Estonia

FTEs: 11-50

Key clients/partners: NHS, JLL, ABM Industries, Trail. Infogrid's partners, Disruptive Technologies, Airthings and BEA provide its sensors.

Key executives: William Cowell de Gruchy, CEO and Founder, previously Consultant, Drystone Strategy Partners; Bernhard Wenzel, Chief Architect, previously Owner Bernhard Wenzel Consulting

PROFILE

Emissions from energy used to cool, heat and light buildings contribute to 28 percent of global carbon emissions.¹ With the global urban population projected to hit 6 billion by 2045², it is important to systematically reduce these emissions. Infogrid combines third-party sensors and proprietary algorithms in a solution that digitalizes facility management—delivering benefits of automated and remote monitoring, including reducing the carbon footprint. Public sector building and construction contracts have a significant role to play in reducing building-related emissions; Infogrid is tapping into this opportunity.

Infogrid has a striking focus on modularity. The Infogrid platform summarizes data from sensors, can create automated alerts, and enables one-click data sharing and report generation.³ The platform is hardware agnostic and currently integrates with three sensor providers, all of which prioritize ease of installation. One partner, Disruptive Technologies, manufactures sensors that are wireless and small (20x20x2mm)⁴ with a backside sticker. Installation involves simply sticking the sensors on the desired surface and can take minutes. Sensors send data to cloud connectors via radio frequencies; cloud connectors transmit to the cloud via cellular networks. Each partner supports a different range of applications (with some overlap), enabling Infogrid to work across virtually all use cases—from temperature and humidity monitoring to counting people.

A strengthened policy focus on zero-emissions and the circular economy make Infogrid's product timely. For example, the European Union's building renovation wave aims for 35 million building renovations by 2030. It prioritizes funding energy efficient renovations, and will usher in binding energy performance standards for all EU buildings in 2021.⁵ As with many startups in StateUp 21, the coronavirus outbreak has helped Infogrid's prospects, in this case by incentivizing remote monitoring.

PLANS FOR 2021

- Fresh off its Series A funding, Infogrid is hiring across a number of key business functions
- It is looking to expand its pro bono temperature monitoring across the NHS⁶

WHO SHOULD SPEAK TO THIS COMPANY?

Facility Managers, NHS Trusts, Sensor Manufacturers

CASE STUDY⁷

Manual checks of cold storage medicines are often inadequate. Details can be missed via low frequency data collection or human error. Thus, manual checks can both detract from the time available for patient care and the quality of dispensed medication. To remedy this, some NHS trusts have turned to Infogrid's cold monitoring solution. Over a hundred NHS sites have installed Disruptive Technologies' sensors on pharmacy refrigerators and freezers and begun automated temperature monitoring via Infogrid's platform. Infogrid claims that participating NHS trusts have improved patient care and gotten a positive ROI in less than three months. Participating NHS trusts are also looking to expand into other functionalities that Infogrid and Disruptive Technologies' product can provide, such as monitoring patient well-being and fire safety.

STATEUP VIEW

Smart buildings have promise, but uptake has underwhelmed. Infogrid directly addresses key barriers⁸ to smart building traction. Players are often put off by the complexity of smart building products; Infogrid's sensors are easily installed and its platform automates alerts and reporting. Installation and replacement are costly, but Disruptive Technologies' sensors last up to 15 years, and Infogrid claims its solution pays for itself within 5 months. There is no standard protocol for smart device communication; Infogrid's platform being hardware agnostic should ease this pain point. Finally, end-to-end encryption should allay concerns about cybersecurity breaches.

Infogrid is primarily an analytics company, and for analytics players, data is king. More data fine tunes Infogrid's proprietary algorithms, helping to deliver more powerful insights. Infogrid has made positive strides in expanding its data sources rapidly. Partnering with hardware manufacturers provides exposure to their existing client base; offering its cold storage services pro bono to NHS trusts should ease getting trusts on board.

Infogrid could build resilience by hedging against supplier disruption as it grows. Relying on hardware suppliers may also reduce Infogrid's pricing power. As an alternative, over time it could rapidly increase partners, pursue backwards integration or mix both—ease in its own sensors (perhaps by acquiring a supplier) while maintaining compatibility with a wide range of partners.

1 New report: the building and construction sector can reach net zero carbon emissions by 2050

2 Urban Development Overview

3 Infogrid demo

4 Wireless Sensors - Tiny wireless sensors you can place anywhere.

5 EU launches 'renovation wave' for greener, more stylish buildings

6 Meet the IOT startup helping NHS

7 Improving NHS patient safety and reducing costs

8 4 Common Smart Building Technology Barriers

CITIZENLAB

EDEMOCRACY PLATFORM THAT HAS HELPED 200+ PUBLIC SECTOR ORGANISATIONS CONNECT WITH CITIZENS TO FOSTER STRONGER COMMUNITIES.¹

COMPANY SUMMARY

Founded in 2015

Total funding: £2.5 million

Latest funding round: Series A, £1.9 million

Investors include Cipal Schaubroeck, Inventures SA; grant from the Brussels region

Head office in Brussels with a presence in the UK, the US, and Chile

50 FTEs²

Key clients/partners: governments of Portland, Grand Paris Sud, Leuven, Bermuda, Seattle, the London Borough of Newham, and Chile's National Youth Institute

Key executives: Wietse Van Ransbeeck, CEO and Co-Founder, experience at the US State Department and German Marshall Fund; Aline Muylaert, Head of Government Success and Co-Founder; Koen Gremmelprez, CTO and Co-Founder: entrepreneur, data scientist

PROFILE

At a time when trust in government institutions is at an all time low, meaningful dialogue between citizens, the politicians who represent them, and civil servants, is critical.³ CitizenLab—a leader in the digital participation space—helps public servants better understand their communities, and enables citizens to make their voices heard.

CitizenLab bills itself as the “complete citizen participation platform.” It distills the participation process into three stages—Engage, Manage, and Decide—with tools to support each on its centralised platform.⁴ “Engage” tools enable users to launch different types of consultations, from open ideation to polling to participatory budgeting. “Manage” provides tools to track the status of participatory projects. “Decide” analytic tools can sort responses by demographic, score proposals by level of engagement, and classify feedback, helping users to make quicker and well informed decisions. These tools integrate machine-learning algorithms that process text input from citizens. They turn unstructured data into easily digestible snippets of information, helping civil servants to understand their constituents.

CitizenLab's platform is designed as a turnkey product for public servants interested in forging deeper connections with citizens. Already working in many markets, as interest in inclusive policymaking continues to grow (particularly at the local government level), CitizenLab's platform should find plentiful ready audiences.

PLANS FOR 2021

- Go open source, which includes providing full transparency of their AI algorithms.
- Increase their presence in new markets including France, the UK, the Netherlands, and the US.
- Further develop insights feature, allowing governments to access passive participatory data from sources such as social media posts and news articles.

WHO SHOULD SPEAK TO THIS COMPANY?

Public sector organisations seeking citizens' input and ideas in decision-making processes.

COMPANY IN ACTION⁵

Peñalolén, a Chilean commune in the province of Santiago, used CitizenLab to launch a participatory budget. In each neighbourhood, citizens could voice their opinions and vote on what they thought deserved municipal investment. Over 24,450 inhabitants (about 10% of Peñalolén's total population) participated via the online platform, which complemented offline workshops. The winning ideas helped improve infrastructure and public spaces, focusing particularly on safety, accessibility and intergenerational integration.

STATEUP VIEW

Digital engagement and participation is one of the most crowded GovTech subsectors. However, CitizenLab stands out from the crowd. While other engagement-focused startups use AI, government clients will appreciate CitizenLab's thoughtful approach to its NLP algorithm, including manual review of results. CitizenLab also actively thinks about mitigating the risks involved in online participation, like bias. In a 2018 project with Youth4Climate, the platform displayed popular ideas first. Recognising that this approach risked reinforcing dominant propositions, they have since randomized the order in which ideas are displayed on project pages.⁶

CitizenLab is also well positioned for success because of its international footprint. Many startups in this subsector remain focused on a particular region. CitizenLab has significant traction in the EU but also works with over 150 public sector clients throughout the US, Latin America, and the Caribbean. This diversity speaks to the platform's adaptability, bringing value to governments with different needs and cultural norms.

¹ Community engagement case studies

² CitizenLab on LinkedIn

³ Public Trust in Government: 1958-2019

⁴ CitizenLab platform: online community engagement tool

⁵ 24,450 citizens take part in Peñalolén's participatory budget

⁶ <https://www.citizenlab.co/case-studies-en/youth4climate>.

LOGICALLY

LOGICALLY USES AI TECHNOLOGY AND HUMAN RESEARCHERS TO STAMP OUT MISINFORMATION BEFORE IT CAN SPREAD.

COMPANY SUMMARY

Founded in 2017¹

Total funding: £7.5 million seed funding²

Latest funding round: Seed round, £2.5 million

Revenue band:

Lead investors: XTX Ventures and NPIF – Mercia Equity Finance.³

Office: Brighthouse, London, Mysore and Bangalore

FTEs: 100+⁴

Key clients/partners: US and Indian federal and state governments; Newsmobile

Key executives: Lyric Jain, CEO and founder, MEng from Cambridge University⁵; Tod Lockard, COO, previously at online educational platform Boclips.⁶

PROFILE

Logically was set up to combat online misinformation and disinformation across a variety of online media. 'Fake news' has plagued governments all over the world for the last five years, undermining the democratic process and fuelling populist political movements.

Logically's media intelligence, credibility assessment, veracity assessment, and social network intelligence capabilities combine Natural Language Processing, Knowledge Engineering, and human research to identify both false information and edited or faked images in news articles and social media posts. Users can share articles with the app and it will identify and fact-check the main claims in them.⁷ It can distinguish between different kinds of statements and contextualise them for better understanding.⁸ The AI allows Logically to cover a large amount of material at speed, while the human component moderates the AI for nuance and accuracy. Logically claims that it can identify fake news before it becomes widespread. It works with governments to stop fake news from undermining democratic processes and public safety messaging, including Covid vaccination rollouts. It also works with private companies to protect brand reputation and guard against targeted disinformation campaigns.

Logically is active in the USA, the UK and India, all countries that have suffered polarisation and radicalisation partly driven by fake news. In the UK it will benefit from the government's aim, laid out in the recently published Online Harms White Paper, of encouraging media sites to strengthen users' media literacy through service design, in which Logically is a pioneer. Growing pressure on social media companies to tackle misinformation on their platforms will also likely turn to their advantage. Importantly, given concerns about foreign influence on elections, it can detect the digital footprint of nation-state actors on disinformation.

PLANS FOR 2021

- Consolidation: building on their current technologies and offerings
- Expanding their threat intelligence and fact checking services to a wide range of government bodies, public sector organisations and private sector businesses

WHO SHOULD SPEAK TO THIS COMPANY?

Central and local governments, media outlets

COMPANY IN ACTION

In 2020, Logically investigated the viral claim that Covid-19 had been deliberately created in China as a biological weapon. The story was typically attributed to a website called ZeroHedges. Logically found that the claim had actually originated from the Indian news site Great Game India. It investigated the history and online engagement of the site, and analysed the ways in which it had created false legitimacy for its Covid claim. Given growing tensions between China and India, it was a particularly urgent story to fact-check.

STATEUP VIEW

Logically's main challenge is distinguishing itself from other technology companies offering fact-checking services. There are two significant differences between Logically and its competitors. First, it has quickly internationalised: it has successfully covered the two biggest democratic events of the last two years, the Indian election of 2018 and the US Presidential election.

Second, its methods are relatively innovative. Its product is very versatile, capable of working on social media posts as well as long-form news articles. During the 2020 presidential debates it used voice recognition software to detect statements being made by the candidates and fact-check them live. Much AI in this field is unreliable: it struggles to identify statements correctly and is in need of constant human moderation, leading competitors, like Vinesight (Israel), to favour content-agnostic approaches to rout false information. Logically recognises the need for a human component and employs a large fact-checking team, offering a better guarantee of accuracy than most companies of its kind.

It has done a good job of raising its profile: the BBC ran a story on its live fact-checking of the first US presidential debate.⁹ It has also proved unusually successful among providers of content analysis and moderation services in quickly securing government contracts.

¹ Logically

² Company's own figure.

³ Logically - Funding, Financials, Valuation & Investors

⁴ Logically

⁵ Lyric Jain on LinkedIn

⁶ Tod Lockard - Chief Commercial Officer @ boclips

⁷ App | Fact check, Analyse and Stop Misinformation

⁸ Tech | Fighting Misinformation with AI

⁹ Why AI live fact-checked the presidential debates

REMIX

HELPING TRANSPORTATION EXPERTS MAKE BETTER, DATA-INFORMED DECISIONS

COMPANY SUMMARY

Founded in 2014

Total Funding: £20.8 million

Latest Funding: Series B, £11.5 million

Lead investors: Sequoia Capital, Energy Impact Partners, Y Combinator

Office: San Francisco, US (HQ), Amsterdam, Netherlands.

FTEs: 50-100

Key clients/partners: 340+ cities and agencies across 5 continents, including San Francisco, Miami, Sydney, NYC, and London; Swiftly

Key execs: Tiffany Chu, CEO and Co-Founder: BS Architecture, MIT, also Commissioner, San Francisco Department of the Environment, previously COO Remix, UX researcher and Designer at Zipcar; Daniel Getelman, CTO and Co-Founder: BS Business Analytics UPenn, previously CTO and Co-Founder of Lore; Danny Whalen, Co-Founder: previously Software Developer at Intergrallis Software

PROFILE

Shaping how people move around cities is complex, touching on issues of access, equality, and sustainability. Mobility is increasingly a policy priority, with city planners and policymakers entrusted to keep cities moving while meeting Net Zero targets. Yet legacy technologies do little to assist in 21st century urban mobility design.

Remix, a collaborative mapping platform for transportation decision-making, offers a suite of products aimed at helping municipal workers make better mobility decisions. The products require no technical know-how. They prioritise collaboration and interoperability, making it easy to download data and share potential plans including between city planners and policy decision makers. All of Remix's products are cloud-based, secure, and adhere to open data standards.¹

Remix's Transit platform lets users design transit lines, leveraging demographic data and up-to-date usage statistics to inform decision making. Its Streets platform helps inform difficult yet crucial questions around transportation infrastructure and public safety by enabling city planners to test street designs with multimodal designs (e.g. protected bike lanes, bus lanes). Remix's Shared Mobility platform gives cities deeper insights into the environmental and economic impacts of new mobile mobility options like e-scooters and dockless bikes. And Remix Explore is specifically designed for discovering transportation data and sharing ideas rapidly. With Explore, cities and transit agencies can combine transportation datasets to uncover multimodal insights and communicate relevant, local statistics.

PLANS FOR 2021

- Continue to expand internationally, particularly in European and Latin American markets.
- Invest in serving customers' emerging need for collaborative tools.

WHO SHOULD SPEAK TO THIS COMPANY?

Local governments and transportation agencies.

CASE STUDY

Remix became a critical tool for NYC city planners when Covid-19 hit and the city decided to close its subways from 1am to 5am for deep cleaning. To minimise the negative impact of this change, municipal leaders leveraged Remix's demographic tools to determine where essential workers lived. They then created overnight bus services specifically to serve closed subway lines in areas where many key workers live. In just one week, the city used Remix to inform the creation of 1,100 additional bus trips on more than 60 routes, serving the over 11,000 essential riders that typically rely on overnight subway services.

Screenshot showing a proposed route in the Transit platform. Planners can set service frequencies and see how this affects key metrics like costs and users served in real time.

STATEUP VIEW

Mobility data is hot property for city infrastructure planning, but can be siloed, difficult to visualise, and hard to understand. Remix's user-friendly approach has led to an impressive range of contracts: reportedly 340+ cities and agencies across 5 continents, including San Francisco, Miami, Sydney, NYC, and London. While not the only transportation data offering (and currently lacking an Artificial Intelligence play), the Remix platform flattens the learning curve common with some competitors' products. The combination of commercial nous and user-centricity may have helped to secure contracts—and backing by top investors.

Covid-19 is reshaping urban mobility. As cities increasingly seek green mobility solutions, Remix is well placed to build on its track record and help city governments audit and analyse transportation services, and plan more sustainable transportation and routing options.

¹ How Cities can ask for data from Micromobility Providers

ACCURX

ACCURX PROVIDES INTUITIVE, USER RESEARCHED PRODUCTS TO MODERNIZE HEALTH COMMUNICATIONS.

COMPANY SUMMARY

Founded in 2016

Total Funding: £9.6 million

Latest Funding: Series A, £8.8 million

Revenue band: £1-5 million

Lead investors: Atomico, Innovate UK (grant), LocalGlobe, Entrepreneur First.

Office: London, UK (HQ).

FTEs: 10-50

Key clients/partners: NHS, General Practices, Clinical Commissioning Groups (CCGs), Primary Care Networks (PCNs), Hospital Trusts

Key execs: Jacob Haddad, CEO and co-founder: M.Eng Engineering Economics and Management, University of Oxford; MSc Health Policy, Imperial College London; Laurence Bargery, CTO and co-founder: BA and MSci Natural Sciences, Cambridge University; previous experience at Goldman Sachs and Spiral Software Ltd.

PROFILE

Health communication in the UK has been described as stuck in the dark ages.¹ With the NHS only planning to phase out pagers by 2021,² it is hard to argue with the claim. AccuRx is intervening in this space to modernize communication within medical teams and between health professionals and patients. For example, between doctors and patients, it offers Message Patient, which allows medical practitioners to send patients text messages. Healthcare professionals in primary and secondary care can communicate using accuMail.³

AccuRx's initial offering, Message Patient (fka Chain SMS) was timely when launched in 2018 as it keyed into a UK health communications modernization wave. However, the biggest catalyst to accuRx's growth has been the coronavirus crisis. It has enabled accuRx to expand its offerings and onboard new clients at a dizzying pace. AccuRx could exploit this opportunity because of an agile approach to product development.⁴ Once the virus hit, GPs pushed for expanded online functionality.⁵ One of accuRx's responses was to, over one weekend, integrate video consultation (based on video conferencing app Whereby) into its Message Patient product. The following Monday, it released the feature to almost 50 percent of UK practices, who were already using Message Patient. In two weeks about 75 percent were using it for over 35,000 daily consultations.⁷

PLANS FOR 2021

- In December, accuRx launched a COVID-19 vaccination booking service, accuBook.⁸
- In January, it is launching accuRx plus, a set of paid tools which are either new features or features developed in response to the coronavirus pandemic. They include: online patient triage, video consultations, batch messaging, expanded SMS options and COVID-19 screening surveys.⁹
- accuRx has told us it also plans to increase hospital uptake for its products.

WHO SHOULD SPEAK TO THIS COMPANY?

GPs, CCGs, PCNs, GP Federations and Super-Partnerships, and Hospital Trusts

COMPANY IN ACTION¹⁰

Patient Triage is accuRx's tool to enable online consultations for non-urgent care. When a patient clicks the triage link, they are taken to a landing page that ascertains the nature of the patient's request. A patient who submits a medical query will have to fill in details about their medical issue, including attaching pictures and noting how soon they would like a response. Being able to assess the urgency of a request helps the practice prioritize responses. The request appears as a task to be assigned on the relevant practice staff's accuRx dashboard. They can save the query to the patient's medical record, assign the task to another member of the practice, and, among other options, email or text the patient.

STATEUP VIEW

AccuRx's offerings so far have been low-tech, something that seems to be a trend in health communications. For example, Doctolib and Practo offer similar services in Europe and India respectively. However, simple interventions like text messaging are fungible. Product differentiation for fungible services is difficult to achieve; pricing and brand recognition are typically the means to an edge in this context.

We think accuRx is doing a good job on both fronts. AccuRx's strategy has involved building a customer base with free products, and then adding in paid extra features that can be purchased separately, but are cheaper bundled and purchased at scale. AccuRx prefers to deal with CCGs, who will ostensibly make bulk purchases.¹¹ Pricing for paid features is attractive. At the time of writing, for Message Patient, it charges 1.5p per message fragment; a practice with a list size of 10,000 can expect to pay £120 to £180 annually.¹² CCGs can buy the accuRx plus bundle for 49p per patient.¹³ Reviews on social media¹⁴ and practice review platforms¹⁵ suggest AccuRx has a healthy reputation undergirded by its agile management, extensive user research and responsiveness to clients.

AccuRx has recently introduced more complex features, such as Patient Triage. Its founders have backgrounds in health and technology. They initially founded accuRx to provide data-driven decision support that mitigates overprescription of antibiotics.¹⁶ A move to more differentiable, high-technology features long term is imaginable.

1 Coronavirus: The tech minnows changing the NHS
2 NHS told to ditch 'outdated' pagers
3 Zerone – Webflow HTML website template
4 What is agile project management and why do we use it?
5 How user research has helped us to build a new feature
6 Video consultations: IG and Security
7 Over one million GP consultations using new app
8 accuBook

9 The next step in our journey launching accuRx plus
10 AccuRx Patient Triage demonstration
11 The benefits of using pathways
12 AccuRx for your GP Practice
13 AccuRx Patient Triage demonstration
14 AccuRx reviews
15 accuRx Reviews
16 Meet the startups that just pitched at EF's 6th Demo Day (and our top picks)

COLAB

FOSTERING COLLABORATIVE PUBLIC MANAGEMENT THROUGH A CIVIC SOCIAL NETWORK

COMPANY SUMMARY

Founded in 2013

Total funding £1.38 million

Latest venture round July 2020

Investors include Media Development Investment Fund, Luminate, KPTL, EDP Ventures

Based in São Paulo, Brazil

15 FTEs

Recognized by IADB (New Startup award), World Summit Awards, New City Foundation, Pitch Gov (São Paulo), US State Department

Key executives: Gustavo Maia, Co-Founder and CEO: communications professional, MBA Fundação Getulio Vargas, Endeavor Social Impact Entrepreneur. Paulo Pandolfi, Co-Founder and Commercial Director.

PROFILE

Colab's mission is to enable collaborative public management. In a country beset by low levels of trust between state and citizens, the goal is meaningful. The startup leverages the country's high smartphone penetration and widespread use of social media to facilitate communications on public management issues, from waste collection to crime, between local governments and citizens. Colab's bet is that more collaboration can bolster efficiency, accountability—and trust—in public management.

Colab's platform has three main functions. First, users can notify officials about issues such as potholes and graffiti by sending georeferenced messages and photographic evidence that Colab routes to the relevant public agency via the platform's Occurrence Center (known as CdO, its Portuguese acronym). Citizens can then track the status of the issue they flagged and respond to questions from local officials. Second, governments can use the platform to conduct asynchronous citizen engagement such as participatory budgeting and consultations. Public servants can then use Colab's online dashboard to monitor, analyse, and make data-driven decisions based on the responses.

Third, governments can set 'missions' designed to incentivise users to engage in specific topics. Participants are ranked according to levels of participation and 'influence' within the Colab social network. While the effects of gamification on participation remains under-researched, the CEO, Gustavo Maia, reports that it "improves engagement and motivates citizens," increasing the likelihood of participation.¹

PLANS FOR 2021

- Reach 1 million citizens by 2021.²
- Add greater modularity to both the public servants' interface and the citizen-facing app.
- Increase accessibility and personalisation of products.
- Integrate with city hall services, becoming a public service 'super app'.

WHO SHOULD SPEAK TO THIS COMPANY?

Local governments, particularly in Brazil.

CASE STUDY³

Colab has played a central role in the digitisation efforts of the municipality of Santo André (São Paulo, Brazil). Citizens use Colab's app to access government documents and services that previously required a trip to City Hall. Through the app, citizens can also flag issues in their community such as rubbish that needs collecting or trees that need pruning, providing photo evidence that is sent directly to the relevant public servant. The outcome, as described by Renato Garcia, the Municipality of Santo André's Director of the Department of Citizen Assistance, is higher quality and more efficient problem resolution.

STATEUP VIEW

There is a growing belief that nettlesome public challenges may best be solved through collaborative public management. Colab has bet on this theory since 2013—earlier than most. For a long time, investors did not follow suit. As one Colab employee describes, five years ago "Most of the funds in Brazil wouldn't even listen to a company that focuses on selling to governments". But there is increasing interest from impact investors, from which Colab has benefitted, securing funds from the US-based Omidyar (via its Luminate fund) and Media Development Investment Fund.

Brazil provides fertile ground for growth with its 5,570 municipalities, 26 states, and countless public sector agencies. At the federal level, Brazil's digital government agency is active, and the Brazilian Digital Transformation Strategy, announced in 2018, indicates a willingness to engage technologies to better meet citizens' wants and needs.⁴ While not the only collaborative public management platform, Colab's contextual understanding of the Brazilian market (which historically has been difficult for foreign firms to enter) may prove a winning ticket.

1 Como o Colab, uma rede social focada na zeladoria urbana, cresceu e se tornou um negócio lucrativo
2 Já sabe em quem vai votar? O Colab acaba de lançar um game para ajudar os brasileiros a votar melhor. (Estamos precisando, não?)
3 A Prefeitura de Santo André e o atendimento presencial usando o Colab
4 ESTRATÉGIA BRASILEIRA PARA A TRANSFORMAÇÃO DIGITAL

YOTI

YOTI'S CONSCIENTIOUS APPROACH TO IDENTITY MANAGEMENT IS COMMERCIALY ASTUTE AND CIVIC-MINDED

COMPANY SUMMARY

Founded in 2014

Total funding: £85 million

Latest funding round: Undefined venture round, £12 million

Revenue band: Not supplied

Lead investors: Robin Tombs, Noel Hayden

Offices: London, UK (HQ); San Francisco, US; Melbourne, Australia; Bengaluru, India; Wellington, NZ

FTEs: 101-250

Key clients/partners: Unique Identity Authority of India, UK National Care Force, NHS England, Scottish Improvement Service, Government of Jersey

Key execs: Robin Tombs, CEO and co-founder, also Founder, Gamesys and Director, Infinitesima LLC. Madhu Nori, CPO and International Commercial Director, previously CEO, IgniteWorld. John Abbott, CBO, previously Senior Management Consultant, The Berkeley Partnership. Hugh Godsal, CFO, previously Managing Director, Cobblers Cove Hotel.

PROFILE

Traditional identity verification processes are often unsafe and inefficient. Physical identification is easily lost or stolen; it often contains more information than necessary for a verification, putting individuals at risk of identity fraud. Safety issues also plague online accounts. For example, in 2018, Aadhar, India's government ID database, suffered a series of attacks that potentially compromised all 1.1 billion registered citizens' information.¹

Yoti's products aim to make identity management safer and more efficient. The Yoti app stores personal details and delivers a reusable digital ID that allows individuals to share only the details needed per verification, an approach it calls data minimisation. The civilian's app is secured by a biometric key that only they own (the individual's unique facial template) and a 5-digit PIN. Yoti says it is specially designed so that nobody can access an individual's data after security checks are completed, unless the individual gives consent.

For institutions, Yoti's verification integrates into platforms and services involving identity and age verification, e-signatures and building access.² There's also credential management that can range from professional information to health test results. Governments integrate Yoti to verify identities online and/or in person, including contactless verification of NHS and UK National Care Force workers, and regulating access to online public services (such as paying taxes) in Scotland and the Island of Jersey.

Yoti stands to gain from three mutually reinforcing trends. One is the GDPR-inspired wave of data privacy regulation, with Canada, Brazil, Kenya, and New Zealand introducing regulation and the UK and US levying record fines.³ Another is the coronavirus-induced shift to remote work, with an attendant increase in demand for secure identity management platforms. Finally, the notion that individuals should have sole responsibility for managing their identity, called self-sovereign identity, is gaining popularity.

PLANS FOR 2021

- Drive credential management with anti spoofing technology that prevents fraud, such as linking COVID-19 tests to user identity and issuing health credentials via its partnership with FRANKD by Polish biotech company GeneMe. This can help open society with safer air travel and more.

- Currently participating in a UK Government trial to test the usefulness of giving private and third sector organizations access to its Document Check Service to enable real-time verification of British passports.⁴
- Driving adoption and awareness of digital ID by building a trusted network of public and private sector partnerships online and on the highstreet.
- Expanding e-signature functionality for existing and new customers.

WHO SHOULD SPEAK TO THIS COMPANY?

Government institutions looking to integrate secure identity management solutions into their processes; local governments seeking an e-signing solution; regulators seeking to comply with child safety regulation.

COMPANY IN ACTION

Yoti provides identification services for the Government of Jersey. Residents need to prove their identity via Yoti to access its online services. Using a smartphone, residents enter their number and a five digit pin, take a 3D face scan, upload identification (a valid passport), and link their emails. They can then go to the one.gov.je website, where a QR code scan will link their Yoti to the service portal. Yoti provides similar services to the Improvement Service, who deliver the MyAccount platform for online services for the majority of Scotland's 32 Local Authorities.

STATEUP VIEW

Low trust in identity firms is a major restraint to the growth of the personal identity management market.⁵ Yoti has taken deliberate steps to address this trust deficit—it is a certified B corporation, was an inaugural Safe Face Pledge (an anti facial analysis abuse commitment) signatory, and regularly hosts Digital Identity Fellows who analyse digital identity systems from a human rights perspective.⁶

Yoti's app traction and numerous partnerships suggest that its efforts at trustworthiness are yielding fruit. We also like that it is developing AI-powered products, such as a feature that scans faces to estimate individuals' ages without personal details. These will make it more competitive against AI-heavy players. Long-term, Yoti's business model and trust-focused approach should enable it to carve out a sizable niche for itself.

1 Aadhaar Data Breach Largest in the World, Says WEF's Global Risk Report and Avast

2 Identity verification solutions for a digital world

3 Data Privacy a Priority for Governments Across the Globe, Pushing Companies to Follow Suit

4 Document Checking Service pilot participants - GOV.UK

5 Personal Identity Management Market by Application & Vertical - Global Forecast 2021

6 Digital Identity Fellowship

ZENCITY

ENABLING LOCAL GOVERNMENTS TO MAKE DATA-DRIVEN DECISIONS BASED ON CITIZENS' ATTITUDES AND OPINIONS

COMPANY SUMMARY

Founded in 2015¹

Total funding: £16.3 million

Latest funding round: £10.4 million²³

Investors include Salesforce Ventures, M12 (Microsoft's Venture Fund), TLV Partners, Vertex Ventures⁴

HQ in Tel Aviv, Israel

51-100 FTEs

Key clients across the US include governments of Los Angeles, CA; Chicago, IL; Austin, TX; Phoenix, AZ; New

Orleans, LA; Las Vegas, NV; Chattanooga, TN; Savannah, GA.

Key executives: Eyal Feder-Levy⁵, CEO and Co-Founder: advisory board member of the World Economic Forum's "Future of Cities" project, former COO of the Interdisciplinary Research Center for Cities and Urbanism at Tel Aviv University; Ido Ivri⁶, Co-Founder and CTO: experienced tech consultant and software developer, board member of Wikimedia Israel.

PROFILE

Tel Aviv-based Zencity enables data-driven decision-making for local government using social listening. The startup gathers data from sources including social media, local news channels, emails, CRMs, Google analytics, and 311 (non-emergency government hotlines). While much of this information is already available to local municipalities, it is often decentralized and difficult to access. Once collected, Zencity's proprietary AI algorithm sorts and codes the data. An online dashboard (also accessible through a mobile app) then presents this information in an easy-to-understand format.

Zencity's dashboard offers a wide range of features. One highlight is their tool that tracks and displays sentiment analysis by topic, event, or hot-button issue. For example, Zencity will uncover what percentage of all conversations about a city have to do with the management of public parks. Within these particular conversations, Zencity uses natural language processing (NLP) to determine what portion of chatter is positive, neutral, or negative. This analysis helps city policy makers assess how citizens feel about key issues, which can lead to more effective service provisioning and higher satisfaction rates.

The dashboard can also send alerts to the relevant department or agency based on trends its AI algorithm flags up. Its Benchmark platform allows officials to access comparative data from approximately 180 municipalities, providing insights on how their residents' concerns compare to similar communities. For Zencity CEO Eyal Feder-Levy, "the ability to provide municipal leaders with actionable data is a big step in further improving the efficiency and effectiveness of their work."⁷

PLANS FOR 2021

- Help government agencies respond to the public health and economic crises brought on by the Covid-19 pandemic.
- Use the US\$13.5 million they raised in late summer 2020 to improve their software and continue expanding to new cities.
- Expand the types of government agencies they work with.
- Leverage their access to comparative data through Benchmark.

WHO SHOULD SPEAK TO THIS COMPANY?

Local and state government agencies looking to better understand their citizens, city managers, county administrators, and public sector department leaders. They have an intimate knowledge of the US market.

CASE STUDY

When the Fort Lauderdale, Florida city council accepted football star David Beckham's unsolicited proposal to build a stadium on one of the last available open spaces for development, the city faced plentiful online criticism.⁸

The council turned to Zencity's platform to analyze the reaction, finding that the negative sentiment was coming from a loud minority of citizens (see red sections of the illustration below). Positive (green) and neutral (grey) opinions were far more positive. These insights helped the city decide to go forward with the project.

STATEUP VIEW

We have chosen Zencity because of its innovation approach to data-driven decision-making and because of its traction with city governments to date. Listening has been described as in 'democratic deficit', with citizens feeling unheard and undervalued by policy decision-makers.⁹ Many participatory methods have emerged to address this deficit, but they often rely on one-off events. This might not capture the full picture of how citizens feel about a particular issue. With Zencity, issues are monitored 24/7. Since new information is provided constantly, city managers can regularly trace changes in opinion. They can also ensure that they are listening to a broad range of stakeholders, mitigating the risk of only listening to the loudest voices.¹⁰ This more holistic opinion gathering can provide more accurate data to drive decisions, which the many city governments with which Zencity works seem to recognise.

With listening technologies, respect for privacy is paramount; citizens may otherwise distrust the institutions that engage them. Zencity's current privacy statement appears sound. One indicator of successful social listening is citizens feeling that they have been genuinely listened to. Cities that engage Zencity's technology must remember this step.

1 Zencity

2 Social Sentiment Company ZenCity Raises \$13.5M for Expansion

3 <https://nocamels.com/2020/08/zencity-raises-13-5m-cities-data-decisions/>

4 Zencity Raises \$13.5 Million in Funding to Help Local Government Leaders Make Data-Driven Decisions

5 Eyal Feder-Levy – LinkedIn

6 Ido Ivri – LinkedIn

7 Social Sentiment Company ZenCity Raises \$13.5M for Expansion

8 Keeping Your (Digital) Ear to the Ground: How Fort Lauderdale Listened to its Silent Majority

9 Listening: The New Democratic Deficit

10 Covid-19 Note: Including Citizens' Voices in Virtual Parliaments

CYAN FORENSICS

HELPING POLICE TO QUICKLY AND EFFECTIVELY SCAN DEVICES FOR HARMFUL CONTENT.

COMPANY SUMMARY

Founded in 2016
Total funding £3 million
Latest venture round: £1.5 million ¹
Investors include Mercia Fund Managers and the Scottish Investment Bank
HQ in Edinburgh, UK
15 FTEs ²

Key clients/partners: Home Office³, US National Centre for Missing and Exploited Children⁴, Northamptonshire Police

Key executives: Ian Stevenson, CEO: chartered engineer, entrepreneur, Saltire Fellow; Bruce Ramsay, CTO: engineer, lecturer at Edinburgh Napier University.

PROFILE

Police forces need advanced technology to uncover and combat crime committed online.

Cyan Forensics offers tools to help police forces analyse data from seized computers and online sources. Their software, which the UK Home Office describes as “game-changing,” allows public safety professionals to scan for content such as illegal images of children and terrorist handbooks.⁵ The main difference between this startup’s offering and that of legacy software providers is speed: Cyan Forensics’ tools can complete searches in minutes that would take competitors hours or days. As governments increasingly seek to penalise technology platform companies that do not proactively remove harmful content, Cyan Forensics may find an increasingly captive private sector market alongside its government contracts.

The UK Government’s Online Harms White Paper, published in December 2020 ahead of a likely bill, affirms a commitment to protecting citizens from digital crime. This policy attention is likely to be a boon for the safety tech sector.

PLANS FOR 2021

- Continue to expand internationally, building on its internationalisation in 2020 to France and Germany.⁶
- Expand offerings related to finding and blocking illicit material online.

WHO SHOULD SPEAK TO THIS COMPANY?

Public safety bodies.

COMPANY IN ACTION

Cyan Examiner allows police to determine whether a device contains illicit materials. These searches can be undertaken both on the target device itself (via USB thumb drive) or on a police force’s forensic workstation. Cyan’s Responder product enables first responders with minimal forensics experience to quickly examine harddrives in the field. This is helpful in time sensitive cases, and for police working in remote settings with minimal access to forensics analysts.

These products work by comparing content from a target device to what Cyan Forensics calls its Contraband Filter. This filter is a proprietary dataset that contains known illegal material. The algorithm compares the Contraband Filter to the content on the computer, flagging illicit content.

A further product, the Cyan Collector allows police forces to customise the Contraband Filter.⁷ It is useful for investigators looking to include data from a particular case alongside Cyan Forensics’ data. Unlike legacy products on the market, adding data to the Contraband Filter does not decrease search speeds.

STATEUP VIEW

Cyan Forensics is a strong player in the growing field of technology to support police and law enforcement experts. The company has proven nimble, pivoting and expanding its offering in the face of Covid-19 by expanding their focus on illicit content shared online. A partnership with Susteen enables rapid scanning of smartphones.

The company is internationalising, and there are clear applications beyond the public sector. For instance, the proprietary Contraband Filter can be used by social media companies or cloud service providers wanting to minimise the sharing of illicit images.

¹ Cyan Forensics – Crunchbase

² Crime detection tech specialist wins overseas sales and extends reach into online safety

³ Ibid

⁴ Ibid

⁵ Scottish software firm’s anti-child abuse software wins major praise

⁶ Herald article

⁷ Cyan Collector

CHAINALYSIS

IS A BLOCKCHAIN ANALYTICS FIRM. CHAINALYSIS' INVESTIGATIVE SOFTWARE HAS HELPED CRACK SOME OF THE HIGHEST-STAKES CRYPTOCURRENCY HEISTS.

COMPANY SUMMARY

Founded in 2014

Total funding £124.8 million

Latest funding round: Series C, £74.9 million

Revenue band: Not supplied

Lead investors include Addition, Ribbit Capital, Sound Ventures, MUFG Innovation Partners, Sozo Ventures, Accel, Techstars

Offices: NY, US (HQ); D.C., US; Tokyo, Japan; London, UK; Copenhagen, Denmark; Singapore

FTEs: 51-200

Key clients/partners: Europol's European Cybercrime Centre; US Government Agencies (FinCEN, SEC, CFTC, FBI, IRS, DOJ, DEA, USSS etc.); UNODC; Barclays

Key executives: Michael Gronager, CEO and co-founder: PhD Quantum Mechanics, Technical University of Denmark; previously Advisor at Kraken Bitcoin Exchange; Jonathan Levin, CSO and co-founder: MPhil Economics, University of Oxford; previously CEO and co-founder of Coinometrics.

PROFILE

That regulation lags innovation is a stylized fact. With blockchain, this lag is pronounced. Many blockchain applications are decentralized, (pseudo) anonymous, and cryptographically secured. These features underpin blockchain's innovative internal regulation, but also make it uniquely difficult to govern. Most blockchain applications are alternatives to fiat currency, called cryptocurrency. Here, regulatory lag meets a broad scope for abuse; high-stakes heists, like the 2018 crypto exchange hacks amounting to \$1 billion¹, are the result.

Chainalysis has seized upon this lag as a problem-solving, income-generating opportunity. Its products ease mapping and assessing blockchain transactions. For regulators it offers Reactor, a forensic investigation tool. Reactor enables law enforcement to link cryptocurrency addresses and transactions to real entities. Reactor's graph visualization feature maps crypto assets' paths of travel, complete with the ability to build a narrative through annotations. Its Know-Your-Transaction (KYT) product targets private financial players conducting crypto transactions. It enables them to identify and prevent risky deposits and withdrawals in real-time.

Chainalysis stands to gain from an uptick in positive regulation around cryptocurrency. Most notably, the Financial Action Task Force released guidance on regulating digital assets in 2019, leading to a flurry of national regulations in 2020. Chainalysis arguably laid some of the groundwork for this shift—by showing that the most egregious misuses of cryptocurrencies could be consistently tackled. An upsurge in illicit uses of cryptocurrency has also boosted government demand for its product.

PLANS FOR 2021

– Growing its policy and business teams in response to increased government demand for its products.

WHO SHOULD SPEAK TO THIS COMPANY?

Government agencies that oversee financial transactions; cryptocurrency exchanges and wallets; hedge funds, banks and asset managers.

CASE STUDY

Darknet markets facilitate transactions, usually of illicit goods, over the dark web, encrypted online content that does not show up on conventional search engines. The Silk Road was the first major darknet market and was shut down by US law enforcement in 2013. It is now defunct, but large amounts of cryptocurrency still exist in Silk Road linked wallets.

In November 2020, IRS investigators used Reactor to discover and seize one such wallet holding 69,370 Bitcoin (BTC), more than \$1 billion. Reactor's entity linking feature enabled investigators to discover that these funds had been stolen from the Silk Road darknet by a hacker, "individual X". The graph visualization feature mapped further aspects of individual X's activity, such as his 2015 withdrawal of 101 BTC via a now-defunct exchange, BTC-e.com.

STATEUP VIEW

Benchmark, a lead investor in Chainalysis, called its decision to invest a no brainer.² We agree—Chainalysis combines public market dominance with strong growth in private sector clients. It is not slowing—we sense a product ecosystem play with its recently launched Asset Realization Programme (ARP). ARP involves helping clients file and sell confiscated cryptocurrencies, a natural next step for Reactor users.

However, Chainalysis may face difficulty landing cryptocurrency exchanges and wallets as customers. Reactor enables de-anonymizing cryptocurrency users; for exchanges and wallets sharing blockchain pioneers' anti-surveillance ideology, this is unpalatable. When Coinbase, an exchange selling a Reactor substitute, won a government contract, BTC and key clients left its exchange in response.³ Elliptic, Chainalysis' strongest competitor, flagged this as a key difference between both companies; it claims to not provide de-anonymizing functionality for privacy-focused cryptocurrency.⁴ Elliptic's strongest segment is crypto exchanges and wallets.⁵

While this challenge is serious, we believe Chainalysis' trend is net positive. Chainalysis has ample room for growth, including with public and traditional financial clients.

¹ Biggest Heists in Bitcoin History and How They Were Pulled Off | Featured

² Benchmark just funded Chainalysis, the crypto intelligence company that helped crack the Mt. Gox case

³ #DeleteCoinbase Trending After the Coinbase Exchange's Deal with DEA & IRS Becomes Public

⁴ Elliptic Follows Chainalysis in Adding Zcash to Monitoring Platform

⁵ Elliptic banks \$23M to shrink crypto risk, eyeing growth in Asia

EDGYBEES

EDGYBEES USES DRONES AND AUGMENTED REALITY TO HELP EMERGENCY SERVICES RESPOND TO DISASTERS

COMPANY SUMMARY

Founded in 2017

Total funding £5 million¹

Latest venture round £1 million Series A²

Investors include: Kodem Growth, Motorola Solutions Venture Capital, Verizon Ventures, 8VC, NFX, Aspect Ventures, OurCrowd³

Headquarters: Palo Alto, CA; Herzliya

FTEs: 11-50⁴

Key clients/partners: US air force; DJI⁵

Key executives: Adam Kaplan, Co-founder & CEO;⁶ Menashe Haskin, Co-founder & CTO, previously at Amazon, MSc in Electrical Engineering from Tel Aviv;⁷ Nitay Megides, Co-founder & Director of Platform, MEng in Electrical Engineering from Tel Aviv.⁸

PROFILE

Information is key to avoiding disaster: that is why emergency services personnel are given such intensive training, so that in even the most high-stress of situations they can gather the information that they need to act. But in the chaos of a disaster area or a warzone, it can be difficult to access this information. Recently, some emergency crews have started exploring the use of augmented reality (AR) to more rapidly and reliably understand disaster scenes.

Edgybees began life as a gaming company that used AR to create realistic graphics. It subsequently began using drones and automated video analytics to capture live feeds of disaster situations overlaid with geo-information, including maps, building layouts, points of interest, and user-generated markers. It allows first responders to get a detailed overview of a disaster and make their decisions accordingly through enabling real-time situational awareness.

When Edgybees was founded, investors were increasingly sceptical of AR, which was sometimes regarded as something of a gimmick when marketed to the general public. However, there has been growing interest in AR for more targeted, professional purposes. The organisation Forensic Architecture, for example, uses it to reconstruct crime scenes and incidents of state violence.⁹ Edgybees stands to profit from this growing awareness of the potential applications of VR.

PLANS FOR 2021

- Further develop its Argus AR software for use by the military, agricultural companies and emergency services
- Market its technology to oil refineries, using AR to monitor on-site safety.

WHO SHOULD SPEAK TO THIS COMPANY?

Emergency services

CASE STUDY

In 2017, the Florida Keys suffered serious flooding in the wake of Hurricane Irma. The floodwaters obscured roads and landmarks, making it difficult for the emergency services to navigate settlements looking for survivors in need of rescue. Edgybees drones were able to project map information and details of rescue teams on to a live overhead feed of the disaster site, helping the rescue teams to orientate themselves.

STATEUP VIEW

Edgybees has quickly made waves with a number of high-profile successes. In its first two years, it was used to combat wildfires in northern California and flooding in hurricane-stricken Florida. As well as natural disasters, the tech has been used to help firefighters, ambulances and police, suggesting a multiplicity of public safety use cases.

Edgybees recently secured a £950 million award from the US air force, largely to improve the visual technology of its drone programme.¹⁰ In a political context increasingly uncertain about the ethics of drone warfare, Edgybees submits that its technology is used only to keep soldiers out of the firing line, not to attack targets.¹¹

¹ Edgybees on Crunchbase

² Edgybees

³ Edgybees on Crunchbase

⁴ Edgybees on Crunchbase

⁵ DJI Partners With Israeli Startup In First Augmented Reality Game For Drones; Edgybees partners with US Air Force

⁶ Adam Scott Kaplan, CEO/Co-Founder, Edgybees

⁷ Menashe Haskin - CTO - Edgybees

⁸ Nitay Megides, VP R&D, Edgybees

⁹ Investigations II Forensic Architecture

¹⁰ Edgybees Wins Its Largest Contract to Date From AFWERX to Enhance US Air Force Situational Awareness

¹¹ Edgybees is using augmented reality in search and rescue operations