







Government Labs

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Government Labs A critical tool to enable innovation in government and the economy

We live in a time of accelerating change. Powerful interconnected forces like globalization, the internet, and the digital revolution are making it easier than ever to share ideas and invent new products and create new ways of delivering services. Just consider the number of patent applications, which have rapidly climbed to their highest levels in recorded history according to the World Intellectual Property Organization.

The private sector is taking full advantage of this explosion in creativity. For example, startup companies are receiving more investment money than ever before from ever more diverse sources. In fact, the term "unicorn" -- designating a startup worth over \$1 billion -- was only invented in 2013. Incubating stronger startups, while weeding out weaker ones, now requires its own infrastructure ecosystem.

The public sector should equally benefit from this explosion in creativity, but most of the time government services are synonymous with bureaucracy and risk aversion. However, that is slowly changing.

Governments around the globe are widening their list of tools to improve policies and services, in order to better address the challenges they face. These include adopting more agile, entrepreneurial approaches in order to improve their offerings. In part, this is simply because the expectations from citizens are higher than ever. Private sector consumer services are faster, smarter, and more personalized than ever, and citizens are demanding similar quality from their governments.

"Innovation Labs" are one such tool, adapted from startup incubators for governments to use. They are rapidly growing in popularity to develop, prototype, and scale promising ideas. But Innovation Labs are not all the same: they are extremely diverse in how they operate, who is involved, and the projects they tackle.

This report is focused on the "how" of Government Innovation Labs. How different Labs operate, what are the merits to different operating models, and what are some possible achievements through different types of labs.

The report includes case studies from 10 different innovation labs in 9 different countries, from Western Europe to the UAE to Southeast Asia. It is key to note here that radically different methodologies can still be successful. This report is not an endorsement of any specific approach. It presents a number of case studies from around the world to better understand different ways for Innovation Labs to be successful, and offer insights for any government aiming to further enable its innovation drive.



Case 1:

Accelerate Estonia: Creating New Markets through Government Intervention



What happens when governments successfully introduce a completely new industry? Consider two historical examples. For the Apollo mission to the Moon, the US government empowered the whole public research system to work towards a common goal. Or, more recently, South Korea redesigned its poor performance in food waste into a totally economic sector with opportunities for dozens of new companies. What both these cases have in common are that both industries -- space exploration and food waste -- were not attractive to the private sector until the government stepped in. And yet today they are both booming with commercial activity.

Accelerate Estonia believes this is a core task of governments: to take bad market conditions and redesign them into positive opportunities for the private sector. Where the risk is too high for companies or startups, the government can intervene and absorb the risks until the private sector is ready to take the lead.

Accelerate Estonia, established at the beginning of 2019, is an innovation unit within the Estonian government. Its goal is to "solve the most complicated problems and turn them into new ideas that better serve the citizens, as well as create economic value".

The exact process that Accelerate Estonia uses for its innovation lab is very structured. First, through interviews and public events, Accelerate Estonia identifies which government ministries are open to rapid innovation. They only work with policymakers that are willing and ready. This broad approach allows Accelerate Estonia to have deep insights into government operations and relationships. Afterwards, with these ministries and government employees, Accelerate Estonia defines the complex problems that need to be solved and which don>t have a solution yet.

Then, Accelerate Estonia creates a public call for innovators that offer possible out-of-the-box solutions to these complex issues. They can begin a specific call for proposals, information, or bids from interested parties.

Once all the potential ideas and bids are in, Accelerate Estonia decides which of these innovators deserve a proper investment for validation and implementation. To do this, a board of private and public sector decision makers convenes to choose the most ambitious ideas worthy of being tested or validated. They only dig into problems where the first steps needs to be done by the government. Another key rationale is discussing which innovations or ideas policymakers would actually commit to.

For the few ideas that are chosen to advance, Accelerate Estonia offers a curated acceleration of their idea with access to government resources, a credit line of up to 100,000 euros, a pool of mentors, and a brand that justifies their cause.

It is then up to the innovators and their public sector champions -- top level civil servants -- to prove they can push the edge of government where it has never reached before. The most important part of this step is to recreate the market conditions so the data collected is as accurate as possible.



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As for the duration, how long Accelerate Estonia supports a potential innovation depends on its nature. They note it is normal for government innovation labs to be in testing mode for 2-3 years before institutionalisation. Accelerate Estonia will not institutionalise an approach until they know what works and what does not. But scaling is in the vision -- the projects chosen must first have impact in Estonia and thereafter regionally or globally.

For the few ideas that do make it and enter public use, there will be follow-up investments available either from public or private sources, or as a combination of the two.

Despite its young age, Accelerate Estonia currently has eight ideas in incubation (as of 2020). In the long run, turning complex problems into new markets should become commonplace where the desire for innovation exists. In the short run, they want to show that circular economy, modern KYC (know your customer) solutions, digitalised logistics, and social services for digital nomads can work if the government is willing. And some of these publicprivate partnerships will change the world.

One of Accelerate Estonia's projects is in digital mobility services. MaaS XT, which stands for "Mobility as a service,

creates a platform which connects all kinds of transportation service providers (bus, train, taxi, car rental, etc.), allowing new kinds of services to enter the market where all purchases needed for a trip can be made on one platform and one transaction. MaaS XT raises the appeal of public transit thanks to improving convenience and availability, which will result in increases in public transit users. Another innovation from this experiment is how the public sector gains the possibility of offering flexible and personalized like social/educational/hospital services transportation, subsidising them on a need-to-use basis and automatically, which decreases the administrative burden.

Accelerate Estonia is also currently jump-starting the circular economy in Estonia, with the aim of creating a billion-dollar market around 2025. They are also helping with digitizing the logistics sector, and expect 1 billion euros in savings by 2025. Accelerate Estonia acknowledges that they, "have planted the seeds, but the crops will take time to grow". They are also clear that not every project will be successful. Acknowledging and accepting this risk is critical to the success of this ambitious lab.



Case 2:

Belgium's Ghent Living Lab: Part of Europe-Wide Innovation Network



Ghent Living Lab is a member of the European Network of Living Labs, a loose network of like minded cells who work on hyper local problems while collaborating and sharing ideas with other Living Labs across the European continent.

Living labs are mostly ICT-driven innovation networks based on the philosophy where users become equivalent to other participants. Living labs originally referred to spaces built to observe how technology and humans interacted. They are generally focused on a specific territory (whether campus, city, or wider) and emphasize co-creation as core to their methodology. Co-creation brings together a diversity of views, constraints, and knowledge sharing -- especially from crowdsourcing -- to find new scenarios or concepts. Hence, having the widest possible people inputs is vital for such an innovation lab.

The European Network of Living Labs works through Public Private Partnerships of firms, public agencies, universities, institutes and people, collaborating for the creation, prototyping, validating and testing of new services, products and systems in real life contexts on local citizens.

Ghent Living Lab is governed by the local city council and draws on more than 10 years experience of the City's work on innovative approaches to urban revival, including through the use of digital technologies to support inclusion efforts and on the close relationship between the City of Ghent and its universities, not only on ICTrelated issues. It works closely with the local research and innovation communities to take R&D out of the research labs and into real-world test-beds to create use-cases for future applications and services.

Its key partners include the local government and its service partners, iMinds (a Flemish organization supporting innovation in media and ICT), all the major colleges and universities in the city (including the Artevelde University of Applied Sciences, Hogeschool Ghent, and internationally ranked Ghent University), local developer networks, and community organizations. Its primary focus is on Smart Cities and the development of related services.

In practice, living labs place the citizen at the centre of innovation. Four key elements must be present in a living lab:

- active user involvement (in other words empowering end users to thoroughly impact the innovation process);
- 2) a real-life setting (in other words, testing and experimenting in actual public spaces);
- multiple stakeholder participation (the involvement of technology providers, service providers, relevant institutional actors, professional or residential end users);
- 4) a multi-method approach (specifically, the combination of methods and tools originating from



multiple disciplines, including psychology, sociology, strategic management, and engineering).

Regarding the final two steps in seeking multiple methodologies and stakeholders, previous projects have brought together SMEs, social activists, ethical hackers, researchers, students, citizens, and government employees. In other words, bringing together as many labor force perspectives as possible.

A key example project from the Ghent Living Lab is known as "Apps for Ghent". Between 2011 and 2019, the City of Ghent and Ghent Living Lab organized a hackathon every year. Any coder, committed developer or enthusiast was welcome to participate. The goal was simple: develop a product or idea and present it to a strict but fair jury -often using the latest available datasets from the city. The hackathon could be done in different teams or as an individual. During the event, a digital project is developed and is presented to a jury at the end of the day. This jury assesses the idea, the creative character or the extraordinary design and then awards several prizes to the winners. A number of successful prototypes from these hackathons went on to become actual government products. All are bespoke in nature, using niche datasets and catering to niche local needs. On hackathon, as an example, focused on city museums and culture. The winning apps included:

- An app to randomly discover a museum in Ghent
- An app where people can vote for archived art pieces
 they want to see in museums
- An app that uses augmented reality to bring museums to life

Other hackathons produced an app measuring light pollution in and around Ghent, in order to develop new data and inform people about light pollution, while another app finds the healthiest location to start walking based on the walking routes and air pollution.



Case 3:

Singapore's Public Service Division's Innovation Lab: Making a Blended Innovation Process



Big ideas may spark out of the blue, but real innovation does not often happen randomly. Oftentime, small steps are what bring great things to pass. Innovation also arises from intentional processes like design thinking. Other times, matching technology with a keen observation of problems can change the way public officers work, or how citizens interact with public services.

The Public Service Division's Innovation Lab has existed since 2012, starting as a design thinking unit and known unofficially as THE (The Human Experience) Lab. In 2017, with a new role to boost public sector transformation, the unit was officially renamed Innovation Lab.

Over the years, the Innovation Lab team learnt new tools beyond design thinking and tried various ways of engagement with partner agencies. It continued to build an innovative culture by spreading new ways of thinking and discovering new insights. Their original operating model was to be a central consulting unit to serve other government agencies.

The Innovation Lab documented all its lessons from various innovation processes into a blended one called the "Public Service Innovation Process Framework". This innovation framework combines principles from design thinking, behavioural insights, organisational development, business process re-engineering, data analytics, scenario planning, and more, into a "simple-to-learn, use-what-works" approach. They deliberately stripped away all references to the component disciplines, to help people focus on the desired outcomes instead of methodologies.

The framework provides public officers with a common language and a range of tools for innovation practices. With the Lab's coaching in innovative mindsets, public officers can better succeed in solving problems, reducing citizens' pain points and offering more efficient and convenient services.

The framework spreads this culture of innovation in three key ways. First, it focuses on teaching individual public officers to be innovative through training sessions and "makeathons" — similar to hackathons, but less techfocused — where participants learn to use the framework in a hands-on way. In the makeathons, public officers collaborate with citizens to identify challenges, user-tests and come up with solutions.

Second, the Innovation Lab helps host the Public Sector Transformation Awards, an annual innovation competition designed to create a culture of recognition and celebration around public sector inventiveness.

And finally, the Innovation Lab coaches agencies as they deliver innovation projects.

The last step came about gradually; the Innovation Lab started experimenting with flipping the roles: instead of working on other agencies' projects, the Lab would coach agencies' officers to do the projects themselves. Officers from the Lab became process coaches. They mentored and facilitated agencies' project teams to do the interviews and other research interactions with citizen users, and guided teams in sensemaking, ideation and prototyping.



In this way, with the project teams being more hands-on, there was greater ownership and acceptance from their agencies for the solutions produced. The projects moved rapidly from the early stages of user research to testing ideas, and implementing them. This also meant the Lab team was freed up to coach more project teams, and could spread innovation skills and processes further throughout the Public Service.

Innovation Lab's first major project was a smartphone app called "Moments of Life". The project used ethnographic studies to understand the needs of parents with children aged 6 and below, which produced insights and design principles to guide the app design. On the app, parents can register their child's birth and apply for the baby bonus scheme in a single application, search and register interest for preschools and view their child's upcoming medical appointments and immunisation records. Previously, parents would have to go to different agencies to access these services. Innovation Lab led dozens of interviews with citizens, together with a government officer from the Moments of Life Program. Data scientists from the Ministry of Social and Family Development analyzed data across several agencies to identify the types of citizen profiles to be interviewed.

Along the way, citizen narratives were created to help the project committee – with 15 agencies involved – come up with common goals for the citizen user.

After a prototype was developed, Innovation Lab facilitated a workshop to bring four government agencies together to work through their business processes. They highlighted key processes and

policies that needed to be reviewed, reconfigured or removed, then iterated multiple rounds with real endusers. The digital service was launched as the "Moments of Life (Families)" app in June 2018.



Case 4:

Indonesia's Pulse Lab Jakarta: Creating Innovative Pathways via Data Analytics



Pulse Lab Jakarta is a joint data innovation facility of the United Nations' Global Pulse initiative and the Government of Indonesia, via the Ministry of National Development Planning. The UN Global Pulse initiative is focused on using big data and artificial intelligence for development, humanitarian action, and peace. Pulse Lab Jakarta is the first of its kind in Asia and was established in 2012.

Pulse Lab functions as a data analytics partnerships accelerator and employs a "mixed-method approach". Through this, it uses alternative data sources and advanced data analytics methods to obtain actionable insights, providing evidence to inform policy makers. Pulse Lab is focused on catalysing connections across the private sector, government and civil society to support policies and action for effective development and humanitarian practice.

The main proof of concept for Pulse Lab draws from the private tech sector. Companies like Facebook, Google, and Twitter use real time analytics and user trends to shape customer interactions and monitor operations in real time. The Lab aims to enable the government to do that for public services.

The first step was to assemble a team with both hard and soft skills, including data scientists, data engineers, ethnographers, statisticians, and policymakers. This way the Lab had both people who can manipulate and interpret the data, as well as those who understand policy, technology applications, and social issues. Across all research projects, many of which are delivered alongside partners from the UN and Indonesian government, Pulse Lab relies on the expertise of this core team.

Then, Pulse Lab partners with tech companies, government agencies, and other entities, in order to obtain data. Using datasets drawn from mobile communications, remote sensing, and social media, among others, Pulse Lab has generated insights for policy and practical use on topics ranging from fuel pricing to natural disasters. Pulse Lab uses both publicly available datasets, like census information or macroeconomic statistics, as well as proprietary datasets because of their privileged government position, such as telecom company data and social media analytics.

Pulse Lab sees partnerships with companies and organisations within the region and beyond as essential to collaborating on research. Partnerships may be established by:

- becoming a data philanthropy partner and willingly sharing data for analysis;
- becoming a research partner and joining on a project with Pulse Lab;
- becoming a technology partner to build prototypes and/or test new tools;
- presenting a big data analysis tool or method at a training session or workshop for employees or government workers;



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- sponsoring a fellow to join the Pulse Lab and work on data visualisation, data analysis, GIS mapping, and/or software development; or
- providing funding, or in-kind, support for Pulse Lab's work.

Pulse Lab drives exploratory research on new insights that can be obtained from unconventional data sources. It also helps UN agencies, governments and development partners make better use of their data, and advocates for the ethical use of data and technological platforms in line with the protection of individual privacy. This exploration might also find new ways to interpret and utilize data for societal benefit.

In some cases, Pulse Lab designs an open source toolkit (in other words, instructions for others to use the software) to keep monitoring the data collected in real time. For example, if data analytics is being used to monitor for a security threat on social media, then the project would be useless unless it keeps running 24/7.

Lastly, because Pulse Lab believes in total transparency, insights from data analytics and monitoring are always summarized and shared at the end of a project, both for the team to reflect and improve as well as explain to the public what is being done. In one recent project, Pulse Lab gathered social media data to track public concern over food security. Pulse Lab analyzed more than 100,000 tweets to build a statistical model and found a correlation between food inflation statistics and the number of social media posts (especially on Twitter) related to food price increases, as well as a significant correlation between fuel price and foodrelated posts. Pulse Lab>s findings demonstrate that by monitoring social media, the government can gauge the public>s perception of food security in real-time. The data was collected, stored and classified by a third party social media analytics company, Crimson Hexagon, which used regression analysis to examine key words. The Lab compared the volume of tweets to the country's official price index measures, and analysed the relationship between fuel prices and food insecurity.

When the modeled prices were compared with official food prices, the figures were closely matched, demonstrating that near real-time social media signals can function as a proxy for daily food price statistics. This preliminary study paves the way for further research on how social media analytics can complement traditional price data collection by offering a faster, more affordable and efficient way of collecting real-time food prices.



Case 5:

Canada's Ontario Behavioural Insights Unit: Data Driven Innovation



The basic premise of recent government units focusing on behavioural insights is that there are simple, low-cost, low-tech changes that governments could make to increase the effectiveness of policies, programs and services. The Ontario Behavior Insights Unit (BIU) has been in operation for over five years and uses rigorous scientific thinking to develop, design, and test policies that are in our citizens> best interests. One important principle that BIU leverages is the notion of the intentionaction gap, the idea that many citizens do not want to intentionally evade taxes or to avoid taking vaccinations or donating organs. However, they simply fail to do so because life gets in the way. These are domains where behavioral insights can be of help.

BIU's ongoing emphasis is not only on conducting behavioural trials, but also scaling up the outcomes of trials and helping the Unit partners find additional ways of incorporating BI. These might include policy and program design, conducting behavioural audits, the use of big data initiatives in conjunction with behavioral insights, and creating a platform for policy innovation more generally. Ontario's BIU follows a methodology adapted from the Behavioural Insights Team and ideas42, two well-respected organizations that have been engaged in the application of behavioural science to public policy for more than a decade. This methodology, called TESTS, is so named because it has five steps: Target, Explore, Solutions, Trial and Scale.

In the Target stage, the BIU works with project partners to identify consequential behaviour that can be changed

and how change will be measured. An ethical review conducted during this early stage ensures that the desired behavioural change has clear benefits for local citizens as well as the government. Then, they Explore the behavioural context surrounding this specific action, which can involve a literature review, qualitative research, stakeholder interviews and a modified version of a user journey map. The Explore stage concludes by identifying the primary behavioural barriers that

may prevent people from acting. Next, multiple different versions of a Solution are developed that incorporate different behavioural insights to address the behavioural barriers identified in the Explore stage. During the Trial stage, these solutions are tested against each other and against a "business-as-usual" or status quo version, usually via a randomized control trial. Trial results are communicated back to the BIU's partners and decisionmakers, who then have an opportunity to Scale the bestperforming solution or keep the status quo depending on their cost-benefit analysis. While presented simply, this methodology is often a circular process that requires moving back and forth between stages to incorporate learnings or refine project deliverables.

In addition to running behavioural science with randomized control trials, the BIU offers select advisory services to ministry partners and a wide range of public sector organizations. In this way, the BIU can provide a value-added perspective to our partners even in cases where a full pilot project may not be recommended.



Building capacity to apply behavioural science to public policy across the public service is core to the BIU's mandate. The majority of the BIU's capacity-building activities occur through working in partnership with ministries and the broader public sector to deliver behavioural insights pilot projects. However, the BIU occasionally delivers workshops to provincial public servants. Their team also launched a standalone Behavioural Insights Workbook. The Workbook guides readers through the process of applying the TESTS methodology to deliver results with behavioural insights.

The BIU works closely with partners across government to design and implement practical solutions. With its partners, the BIU has saved the province millions in annual operating costs and helped Ontarians unlock significant, everyday benefits through modernizing – and humanizing – government programs and services.

To date, the BIU has delivered nearly 30 behavioural insights pilots. These projects have increased compliance in fine payment, accessibility and health and safety, have saved people time and money by increasing the use of

digital platforms, have improved public safety and public health as well as encouraged uptake of valuable programs and services for Ontario residents. The BIU has also provided evidence-based advice and capacity-building to Ontario Public Service colleagues and decision-makers through workshops, select advisory projects, and the development of a publicly-available digital Behavioural Insights Workbook. Other specific accomplishments include:

- 2x increase in the likelihood of getting HPV vaccine
- 3x increase in the likelihood of reporting vaccinations via official online channel
- 30% increase in cervical cancer screening rates
- \$9.3 million dollar projected increase in collected fines per year
- \$4.85 million projected yearly reduction in avoidable late fees



Case 6:

Portugal's LabX: Simplifying Government Processes through Citizen Involvement



The Experimentation Lab for Public Administration, or LabX for short, is a team under the Agency for Administrative Modernisation in Portugal. LabX seeks to reconcile the demands of optimisation of public resources and the ubiquitousness of public services in its role as a spark of innovation. It positions itself as a safe space to explore government challenges and to test innovative solutions for the Portuguese public services.

Overall, LabX aims to simplify public processes, using direct input from relevant public employees. For example, asking public relations officers to suggest improvements to visa renewal processes. Any public service has the opportunity to put a problem under analysis, or test potential innovative solutions for the organization. Technology is in the forefront of LabX's mind, as the government races to digitize its services; at the same time, LabX is committed to simplifying government processes during this transition, to avoid a digitization of needless bureaucracy.

LabX has identified five principles to guide it in the promotion of innovation in the public sector. They rely on

1) evidence-based arguments,

2) mechanisms to improve participation,

3) collaborative exchanges,

4) experimentation, and

5) measurement.

LabX does not limit itself to a single innovation framework, but tries to apply these principles in the exploration as needed with different methodologies, from service design or gamification to behavioural sciences and participatory techniques.

LabX invests in research in order to find the right problems to solve: either collaborating with scientific research centers and design labs, using data already collected and available from public services, or directly engaging in collecting original data from the field. They use crowdsourced data where available as well. The goal at this stage is to understand how citizens are using their services, and what their wants and needs are for them.

The second is co-creating solutions with input of both relevant public sector employees as well as the citizens who use the specific services. Ensuring that public initiatives are based on the participation of all stakeholders is not only a quick way to gather support for the project, but also a way to ensure the inclusion of needs and expectations from the start. To promote participation, LabX breaks down barriers that prevent communication or discourage engagement with government silos. Priority is given to the barriers that exist between public institutions themselves.

The third step is experimentation, to find how to overcome the obstacles between citizens and public services, whenever public services display language that not everyone can understand, confusing and slow procedures, or costly and less inclusive access.



Prototyping and testing small scale solutions at this point is critical before trying to scale to more users.

LabX works as close as possible with its partners. Using its own limitations as an opportunity to imagine alternatives, Labx emphasises its own role as mediator between partners across the innovation ecosystem. Just as important as innovating public services is training government employees with methodologies that leverage innovation, creating a more focused public administration that are more likely to collaborate.

After 5 years of experience helping the Portuguese public sector, LabLabX created a "Toolkit for Public Services Centered on Citizens", basically a textbook explaining training actions, projects and other initiatives that responds to well-identified needs in the field.

To express and promote LabX's goals they are building an "Innovator's Network", where public servants, have the opportunity to challenge their other colleagues with concerns, to share opinions, or contribute and criticise their ideas and projects. This network was placed online as a shared platform they could all access. Any Public Administration worker can enroll in this community; the platform now has hundreds of members.

Based on their experience, LabX note that it is crucial to adhere to the principles of "Open Government", including, among others, transparency, integrity, accountability, and stakeholder participation. Therefore, it is necessary to clearly demonstrate and prove how value is created and handed down to society. To publicly communicate the value of innovation, it is important for innovation to be measured in its costs, advantages, or impact.

One recent project LabX worked on concerns citizencentered Artificial Intelligence. LabX helped with the rollout and evaluation of a chatbot for the Finance portal of the Tax and Customs Authority, which was operating in a pilot phase. In order to assess the usefulness of the chatbot, an approach was designed to capture different aspects of this technology, combining data analysis, users surveys, and researching the interactions between humans and machines. LabX was able to provide recommendations that eased user pain, improved user expectations, and increased the performance of the chatbot itself.





Case 7:

Chile's LabGob: Citizen-Centered Design in Action



The Chilean government's innovation lab — Laboratorio de Gobierno in Spanish, or "LabGob" for short — was formally established in 2015. Since then, it has worked with thousands of civil servants and citizens in Chile, using a human-centered design approach to tackle problems in health care, energy, and more.

Chilean President Michelle Bachelet first announced the idea of a government innovation lab to the Chilean Congress in May 2014. Before that, the focus in governments had been on how to increase innovation in the private sector; there hadn't been a dedicated agency responsible for encouraging innovation within the public sector. LabGob addresses three main problems the Chilean government was facing at the time — and which many other governments also face:

- How to learn to understand and manage complex problems
- How to improve productivity and deliver better public services with lower cost
- How to create a better relationship between citizens
 and government based on enhanced trust

An inter-ministerial governance model was created to ensure the representation of, and real input by, key stakeholders, both from within and outside government. The board of directors was designed to provide strategic direction for LabGob, and includes members from five ministries: those of the Economy, Interior, Treasury, General Secretariat, and Social Development. It includes representatives from within the civil service and from civil society. Second, we decided to do an open call to recruit the founding LabGob team. Attracting and retaining a strong, multidisciplinary team has been a key part of our strategy since the beginning.

LabGob helps improve government innovation through its three main services: Agile Consulting, the Network of Public Innovators and the Public Innovation Index.

Agile Consulting is done through a "Explore and Solve" approach. which helps the government to better understand and solve public problems. It's primarily concerned with project service delivery within the government as well as open calls for public challenges. LabGob has an in-house,

multidisciplinary team that undertakes innovation project briefs in collaboration with government ministries to tackle a particular problem or policy.

LabGob primarily uses methods from human-centered design, open innovation, and ethnographic research. Their process is adapted from the "Double Diamond" model explained by the UK Design Council. They have a strong focus on people and understanding the user or citizen. They believe in co-creation and experimentation, and in taking a systemic approach to problem-solving. Their methodology for approaching public innovation projects combines innovation and design approaches, together with the best Agile management practices.



Their main goal is to integrate approaches and principles from design into the way governments work. Governments usually won't change their management pillars: hierarchies, teams, budgets, timeframes, and rules. LabGob wants people to understand that they are proposing a cultural change that is possible and feasible, and that is not a threat to the traditional way civil service works. They want to use principles from design to shift from a linear policymaking process to a more open, complex, user-based approach. That's how they will be able to deliver better and more sustainable public services.

The Network of Public Innovators' goal is to train and mobilize both government employees and citizens in skills necessary for innovation. The aim is to build social capital within the public sector. They also help the National Civil Service Directorate to run an innovation award prize, which recognizes civil servants who have innovated within their ministry.

Third, the objective of the Public Innovation Index is to measure the innovation capacities of public services, and contribute to strengthening their public value in complex contexts. It was developed thanks to an alliance with the Inter-American Development Bank, with the purpose of improving public services and their relationship with citizens.

LabGob believes that the Chilean public sector is extremely innovative. However, public servants often don't have the opportunities or the support to foster their own initiatives. And budgets, timelines, rules, and leadership typically do not often align with the innovation process. That is the reason they work on three angles: improving opportunities inside public-sector institutions, developing skills among public servants, and fostering motivations across people both inside and outside government.

One of LabGob's main tools to engage citizens is open innovation challenges, where they invite members of the public to propose solutions to a public problem. For their first challenge, they chose access to primary health care. This is a big problem in Chile — people often queue very early from 5 or 6 am just to get a primary care appointment. They then held a boot camp for the best 20 ideas to prototype their solutions in a municipality. There were four eventual winners. Of those, one is now in the market, and two are being absorbed by the municipal government as part of their service delivery.

Another successful project example was a recent collaboration between LabGob, the Ministry of Energy, and the Chilean consumer protection agency. The project was to redesign the domestic electricity bill to better enable citizens to understand their energy usage and reduce costs. The bill was co-created with a diverse group of citizens, and is now received by every household in Chile.

In Latin America, LabGob has been sharing their experiences with other countries. One of their main messages is that it is not really about design, labs, and methods: those are just tools. It is in fact all about how the government works, how it understands, and how it addresses new problems.



Case 8:

New York City's Office of the Chief Technology Officer: Innovation for future readiness



NYC's Office of the Chief Technology Officer has a mission to ensure that technology is inclusive, accessible, humancentered, and works for all New Yorkers. They view technology as a critical tool for realizing the Mayor's vision of making New York City the fairest big city in America -- as well as make the city "future ready".

This department is not like most innovation labs, because it was not originally created to work in innovation, nor is that its only purpose. NYC' Office of the CTO is a city government office with municipal responsibilities and programs, but on top of its normal daily tasks it additionally helps drive innovation for the city government. The department has co-design spaces, sponsors programs to attract and support entrepreneurs or startups, hosts roundtable discussions, and conducts cutting edge research with other city governments around the globe.

The department's impact is evident by glancing through any smart city ranking available; New York City is consistently ranked #1 globally for innovation. NYC's Office of the CTO is only partially responsible for that success, but the City's deep commitments to experimenting in innovation and technology are reaping huge dividends.

Collaboration is central to how they have impact. The goals of NYC agencies and mayoral offices guide their work, and they partner with colleagues and peers across the public and private sectors, academia, non-profits, and local communities to work together to achieve better outcomes. Their methodology embraces principles of collaboration, openness, and iteration. They work with agencies to inform and create new policies and laws, provide legal advice, and testify at the federal, state, and local levels. Their team members include researchers, program managers, product managers, web developers, data scientists, designers, and experts on AI and the Internet of Things.

The first step is co-creating with communities and residents. They know that the people who are experts in the needs of New York City communities are the people who live, dream, and strive there. They believe in cocreating with New York City's communities in order to best meet their needs, including local non-profit organizations, academic institutions, and residents. Most prominently, they work closely with communities through the Co-Labs methodology.

Co-Labs is a civic innovation program managed by NYC's Office of the CTO and the NYC Economic Development Corporation, announced by the White House as part of a national Smart Cities Initiative in 2015. Co-Labs is a framework for under-resourced communities to address self-identified needs by co-designing tech-enabled innovation pilots. The program is divided into five stages: community engagement, field researcher, challenge design, pilot selection and pilot implementation. Once the winners are selected, they engage directly with the community by empowering their members to co-research, co-design, and co-implement solutions to local challenges, a process that democratizes and opens innovation.



In addition, the NYC Office of the CTO engages with entrepreneurs, startups and industry players. Their programs and challenges engage entrepreneurs and startups by focusing their energies on problems that matter. Meanwhile, their convening and policy work make it more likely that "the next big thing" will be born out of the tech ecosystem in the Big Apple. They launch challenges designed to attract startup energy; host roundtables to bring together private and public sector representatives;

connect City agencies to companies relevant to their missions; and create and support policies that help the New York City tech industry thrive.

Lastly, NYC's Office of the CTO collaborates with other cities across America and the globe, in order to conduct research, set standards, and share best practices around shared goals. Being part of a vibrant and diverse community focused on bringing technology and innovation into government helps them to scale their influence beyond New York City. International partners are located in Canada, Israel, Mexico, Singapore, Quebec, Berlin, Helsinki, and London. In 2017, Brownsville, Brooklyn, was selected as the first Co-Labs site. Brownsville is home to many vibrant organizations, but it is also the second most economically disadvantaged neighborhood in Brooklyn and has suffered disproportionate safety issues. The program gathered 25 people representing 18 organizations to identify community needs. After eight community workshops and three public forums, two issues were selected as the priority challenges: one of these being safety at night, especially along some specific street corridors. A public call for proposals was posted, soliciting grants up to \$20,000 to pilot the best ideas over summer 2018. The lighting project was successful enough to spur multiple subsequent co-labs, including several "moonshot" programs aimed at engaging the tech industry to solve real-world problems and help the City advance its goals.

Due to the COVID-19 pandemic, their chief officer claims that the NYC CTO office led efforts that forced ten years of digital transformation in just ten months. Their quiver of innovation initiatives expanded capabilities around Moonshot and Co-Labs challenges and added the brandnew Digital Service and an award-winning Innovation Fellows program,





Case 9:

UAE's Regulation Lab: Designing Better Policies to Foster Change



Odds are, we have each been subjected to thousands of regulations today without even realizing it, especially with the technology we use. Regulations give boundaries to technology so that it operates securely and efficiently. But if regulations become too heavy, they end up stopping innovation instead of fostering it.

The UAE's Regulations Lab 'RegLab' is designed to proactively anticipate and develop future legislation governing the use and applications of emerging technologies in the UAE in ways that maximise the benefits and minimise the risks. It aims to create projects that can be adopted by policy-makers, legislators and regulators worldwide.

The RegLab uses a novel approach to develop legislation, especially regarding the application of emerging technologies. They work with regulators, the private sector, innovators and business leaders to cocreate laws or regulations that are in step with the speed of innovation. It is designed to proactively anticipate and develop future legislation governing the use and applications of emerging technologies in the UAE, in ways that maximise the benefits and minimise the risks. Regulations passed too early in a technology's existence may stifle new innovations, while those that come too late may have already allowed negative impact on people and markets. That is why RegLab works in the regulation space to align regulation speed with innovation speed. RegLab can also update existing laws if a legal framework is already in place.

RegLab was launched in January 2019 under the Ministry for Cabinet Affairs, and in partnership with Dubai Future Foundation, as part of the UAE's pathway to becoming a global innovation incubator and

a testing ground for future technologies and their applications shaping human life and activity in the future such as mobility, health, 3D printing, AI and more.

RegLab creates legislation according to a three step operating model.

First: RegLab creates physical experimentation corridors, which are physical platforms that allow the testing of future focused technologies as well as the business models they create, granting the UAE Cabinet approval of experimental licenses and reaching out to the global community.

Second: RegLab looks for which emerging technologies require regulation. Their partner The Dubai Future Foundation assists in these efforts by inviting innovators from the global community to apply with specific projects where they would like new regulations. These projects are evaluated according to the results of the experiment, the experimenter, as well the potential impact. Projects that pass evaluation will receive a 6-12 month license to test the technologies, business models, and societal models enabled by the new emerging technologies.



Government Labs

Third: RegLab moves towards creating new regulations. They synthesize their learning from the testing phase before turning this learning into new regulations that serve all innovators. They also create systems to measure, monitor and enforce the new regulations to ensure that they translate into real impact and powerful new models for technology, business and society.

The Regulations Lab "Reg-Lab" has formed two specialized committees that include federal and local entities to support the lab's work, study and develop the proposed legislations while providing temporary licenses to implement innovative projects based on advanced technologies and artificial intelligence applications.

One recent example of RegLab's work was in response to the COVID-19 pandemic. The Dubai Knowledge and Human Development Authority launched new regulations to offer students opportunities for distance learning in government and private institutions using modern technology. It provides students with academically recognised knowledge for universities and higher education institutions.



Case 10:

UAE's The City Makers: hacking intra-governmental collaboration in Dubai



Today's complex challenges require more joined up work than ever before. Such issues include traffic and mobility, unemployment, and climate change. On the service level, citizen expectations are rising daily, and a more seamless set of services is expected, from registering a birth, to paying taxes and fines, to setting up and closing a business. This all requires unprecedented levels of integration and cooperation between government agencies, and, while everyone agrees that collaboration is a good idea with many potential benefits to citizens, the search for truly seamless government has been going on for decades. Government agencies face a range of challenges and barriers when they attempt to work together, from laws and legacy systems that force isolated working models, to politics and competition issues. Governments various methods and tools including articulating common outcomes, establishing mutually reinforcing strategies, clarifying roles and responsibilities, and reinforcing agency accountability for collaborative efforts.

In Dubai, the government decided to take this one step further, by bringing the agencies physically together, in a location and environment that resembles a tech startup hackathon rather than a place where government agencies would discuss collaboration and plans. The government even gave it a name that carries a lot of meaning and responsibility: the City Makers. It is a dedicated initiative to improving government services, breaking the barriers between government departments, and allowing public servant teams to truly think out of the box. The City Makers was set up by Dubai's Executive Council. The City Makers' office also is far from a traditional government building. It is in the middle of Dubai's vibrant art district, and the venue itself is a refurbished industrial warehouse inspired by private sector campuses like Googleplex.

Launched in 2014, The City Makers saves the Dubai government more than USD \$32 million dollars annually by making public services more customer-centric and much more efficient. Initially, they were only helping improve 2 specific government services; this was scaled up to improve all other 62 joint public services by 2020.

Based on a customer-centric approach, the City Makers concept lies in studying the full life cycle of any government service and applying design thinking techniques to ensure that the journey is smooth and efficient. A key ingredient is technology, but the real secret is intra-government collaboration and the ability to design and deliver a seamless service across various departmental boundaries, legacy IT systems, and – in some cases – multiple policy definitions standards.

For each service the program aims to improve, a City Makers "innovation" team is put together representing all entities involved, with up to five members from each entity. The team attends a six day event to learn more about the challenge through some primary and secondary research conducted by a City Makers research team. The research team conducts interviews with customers, and they go through the customer's journey map for that specific service, look at benchmarks and success



stories. The innovation team then finally brainstorms ideas to solve that challenge together.

Following these six days, the teams work on developing a prototype for the service and try it out for two to three weeks. The teams present the results to the Director Generals of the involved agencies and decide on next steps such as budget allocation.

Some of the examples that have been successful so far include the "no objection certificate", which is a key document for anyone trying to launch a major project or building. Legacy systems forced citizens to secure multiple versions of this from various entities (e.g. road and transport, municipality, water and electricity, and others). It was a time consuming and frustrating process. After working in the City Makers, all these agencies launched a joint application called ENOC. This application not only streamlines the various certificates needed, it also cancelled the need for any physical visits. As a result, around USD \$33 million dollars are being saved every year.

Another example is the airport Smart Gates which allow residents to go through passport control in a matter of seconds based on facial recognition technology and without the need for a passport stamp/scan, or a fingerprint. Four main entities were involved in this initiative: Emirates ID, Dubai Police, the General Directorate of Residency and Foreigners Affairs, and Dubai International Airport.

After such ideas are designed, the teams get a six month period to implement their idea and submit results for the City Makers Cup: an annual competition that aims to reward the best results, while motivating all the participants and recognizing their efforts.





