

# Providing IT services for enterprises through the adoption of Information and communication technologies (ICT) in restricted environments: A Participatory Design process to refine the ‘Telework for people in prisons’ program in Colombia

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## Abstract

Since 2015, Colombia has been pioneering technology education in prisons by providing Telework certifications and bringing ICT access to prisoners in civil and military prisons. The goal of this program is for convicts to provide IT services to enterprises as part of their resocialization process.

Although this program presented clear benefits for the prisoner’s resocialization process, implementing this initiative as a service was challenging due to several restrictions from the context and the grey areas in the related regulations that the prison ecosystem presented.

In 2017, two years after the first phase of the program was deployed, the Ministry of Colombian Information and Communication Technologies (ICT), decided to perform a Participatory Design Process to analyze the program status, flaws, and opportunities for refinement so that it could be adjusted to enhance the prisoners’ resocialization process.

This paper describes how the Participatory Design Process was carried out, as well as the lessons learned from the social, academic, and regulatory perspectives.

Keywords: Telework, Information and Communication Technologies (ICT), participatory design, prisons

## Introduction

The 'Telework for people in prisons' program was created under the Vive Digital plan led by the Colombian Ministry of ICT (MinTIC) during the presidential period of 2014-2018.

It was conceived as an opportunity to bring connectivity to the prison community and develop digital skills in prisoners in order to contribute to their resocialization process.

The program was implemented in three phases. The first two phases included the provision of computers and connectivity to prisons, as well as the certification of a selected group of prisoners in telework skills. The third phase was the recruitment of certified teleworkers by companies in need of their services based on their skills. This program provided the opportunity for prisoners to work as teleworkers while reducing their sentence and earning an income for their families.

When the design process began, the first two phases of the program were already deployed. This involved the installation of five Puntos Vive Digital (computer rooms with internet access) in civil and military prisons nationwide, as well as the certification of more than 200 prisoners as teleworkers. Another 200 were expected to start the certification process. However, the third phase, which was the productive phase, was put on hold due to two main factors. Firstly, there was a lack of clarity regarding work regulations concerning the hiring process for prisoners. Secondly, the private sector was hesitant to hire ex-convicts due to a lack of trust.

It was evident to the MinTIC the need to understand the current and ideal vision of teleworking services from a coordinated perspective, where the frictions and opportunities arising from the interaction of such different actors, processes, and spaces would be studied. And so, a participatory design process of 4 phases was initiated, which mapped out the current ecosystem, made visible the frictions and motivations of internal actors, tested different ways of delivering the service, and contributed a collaborative view on the final design of the teleworking model in prisons.

### **The current status of the prison system in Colombia: productive activities, IT access, and stereotypes**

The National Penitentiary and Prison System in Colombia is managed by the National Penitentiary and Prison Institute (INPEC). INPEC is a public establishment that is attached to the Colombian Ministry of Justice and Law. It has legal status, independent assets, and administrative autonomy. All detention centers that operate



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in the country are overseen by the National Penitentiary School and other agencies that are attached or linked to the fulfillment of INPEC's purposes.

Prisons in Colombia manage what is called the "Programas de resocialización" (Resocialization programs), which aim to improve the social reintegration of prisoners and reduce recidivism. During their sentence, prisoners with outstanding conduct can receive formal education both online and onsite, and can also be involved in productive activities such as handicraft making, sewing, carpentry work, among others. Participating in any of these activities can result in a reduction in sentence and regular pay.

However, prisons are still viewed as places where undesired people are isolated from the "real" world. Few people believe prisons are places for resocialization and second chances, and that prisoners should connect to the outside world.

In addition to the "prisoner stereotype," the Colombian prison administration is going through a management crisis due to a low budget, low staff, and prisoner overpopulation. This crisis has disrupted social programs in some prisons, overloading the internal staff in charge of educational and productive activities.

## **Reimagining telework relationships and process through Design: How the telework in prisons can be delivered as a new service for the private sector?**

In 2017, the first two phases of the telework program had been implemented in more than 10 prisons across Colombia. However, the third and productive phase was put on hold as legal and technical issues, such as work insurance, fair compensation, and security concerns for ex-convicts, were debated among the Colombian Ministries of Work (MinTrabajo), ICT (MinTIC), and private sector entities. In addition, prisoners were losing interest and abandoning the program, while prisons were also halting the process due to lack of trust and interest.

To recover the program, MinTIC initiated a design exercise before restarting the deployment of phase 3. The exercise included input from the final users and internal and external actors that affected the program's development on any level (Figure 1). One of the main objectives of this exercise was to understand the current situation of the prisoners and how the telework program could be modified to be implemented in prisons as a service for the private sector.



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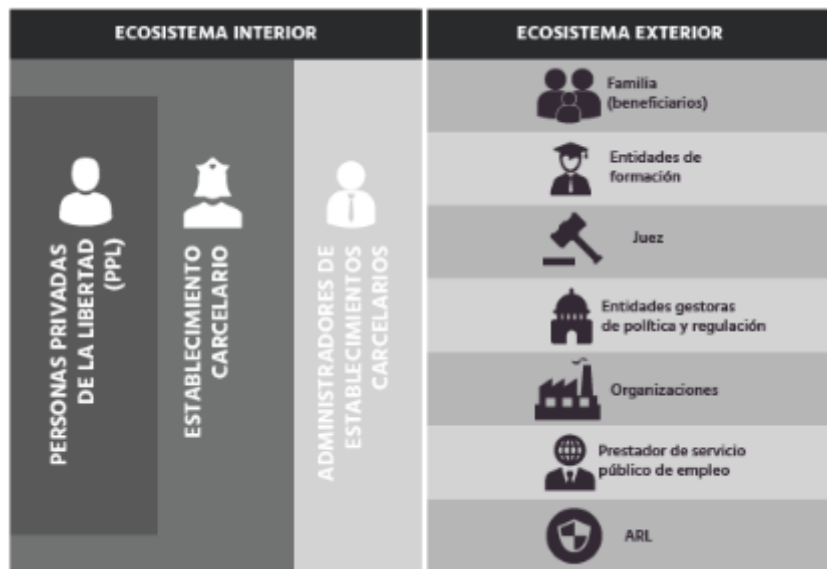


Figure 1. Main (internal and external) actors diagram. Screenshot by MinTIC Innovation team.

## Process description and location of the pilot prisons

The design process lasted 10 months and was carried out in 4 stages; we continuously asked for user and stakeholder feedback to produce the final results. These stages will be further explained in this document.

In the first two phases, the Ministry's team worked with a variety of prisons across Colombia where the project was currently running: Centro de Reclusión Militar Sede Facatativá (Facatativá, Cundinamarca), Centro de Reclusión Militar Sede Puente Aranda (Bogota, DC), Centro de Reclusión Militar Sede Bello (Bello, Antioquia), Buen Pastor Women's Reclusion Center (Bogota, DC), Epmsc San Andrés-INPEC (San Andrés Island) and the Cpms-Tunja INPEC (Tunja, Boyacá). Later on, for phases 3 and 4, the prototypes were developed in four pilot prisons: Facatativa, Buen Pastor, Tunja and San Andrés.

## Stages of the Design process

### 1. Understanding the ecosystem and its external actors

Due to the nature of the program, the presence of external actors was critical, such as the Ministry of Justice (MinJusticia), Ministry of Labor (MinTrabajo), private sector companies, workers' compensation insurance companies, and employment search institutions. These actors had an important role in the design and approval of



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regulations and norms, as well as overseeing any changes in the dynamics of the prison. For these reasons, the design process began with the external actors before starting the fieldwork.

**1.1 Main goal:** In addition to mapping the actors of the ecosystem in detail, the exercise aimed for the team to understand the interactions and frictions between the different participants and how they reached a consensus about what information to record on the canvases.

**1.2 Main activities:** The team carried out working sessions with the program's external actors. During these workshops, external stakeholders worked on identifying the main actors of the program, as well as listing their barriers and motivations to continue the program's deployment. Additionally, during the sessions, a member of the design team was supervising the groups and asking questions to the participants about their choices and information in the canvas. (Figures 2 and 3)

**1.3 Deliverables and learnings:** At the end of this stage, the outcome was a series of maps that reflected on the external actors' perception of the program. Also, we were able to identify the actors that had a higher level of influence on key topics for the program.



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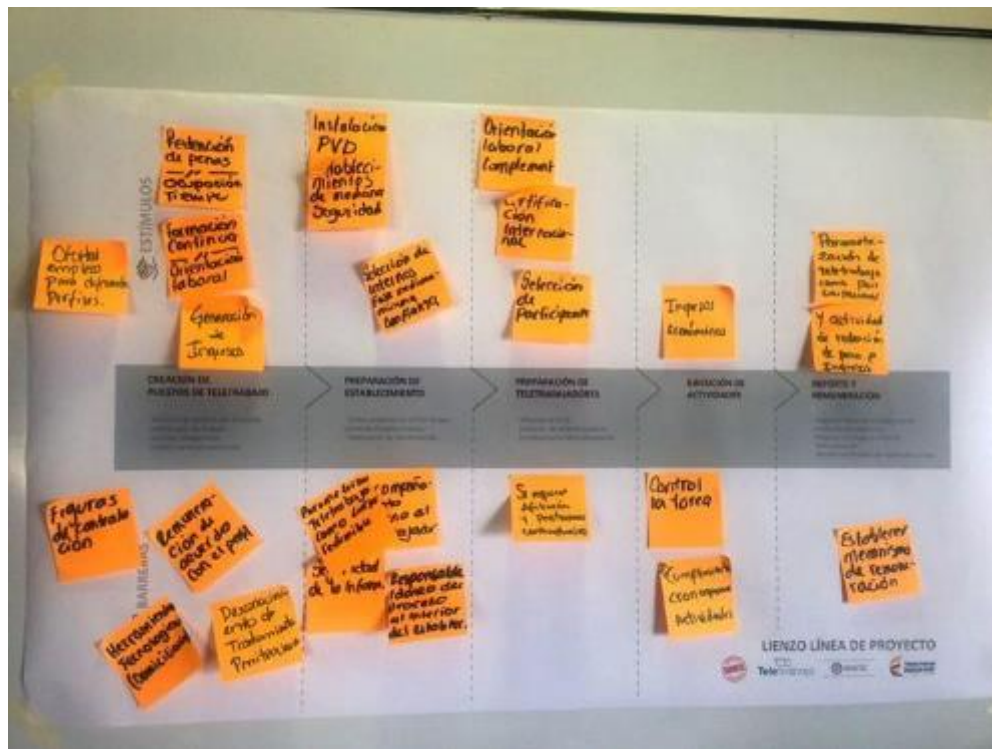


Figure 2. 'Linea del proyecto' canvas filled out during the workshop with external actors. Photo by MinTIC Innovation team.



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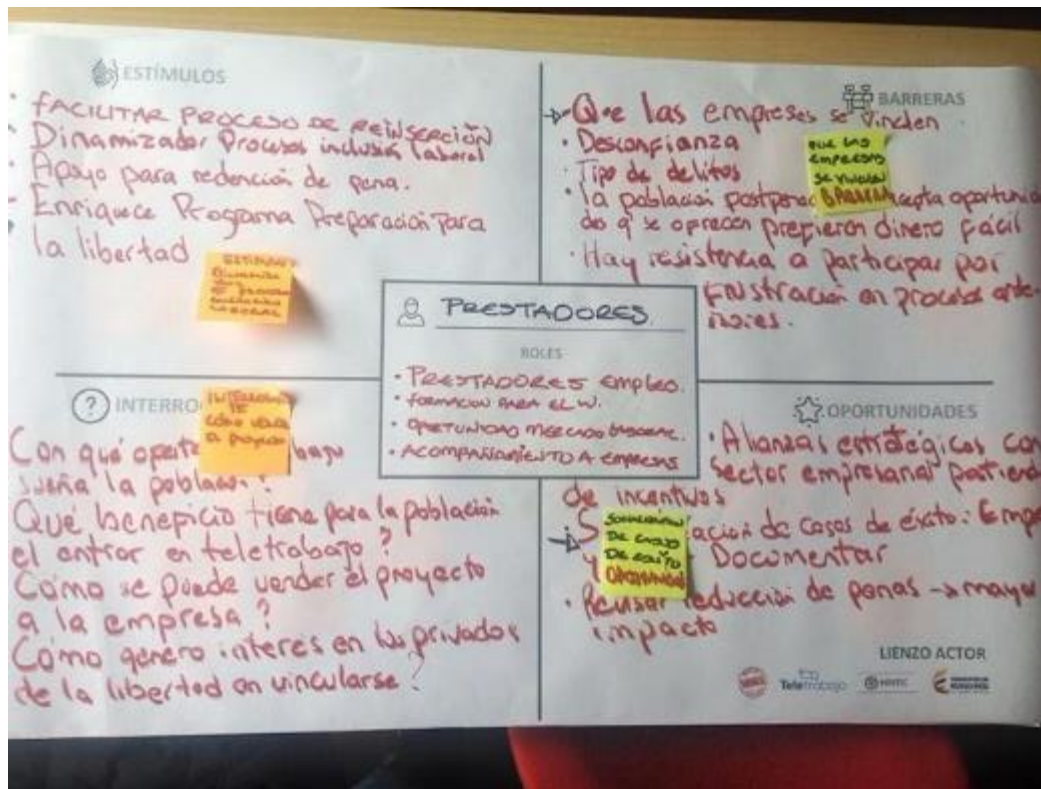


Figure 3. 'Lienzo de actor' canvas filled out during the workshop with external actors. Photo by MinTIC Innovation team.

## 2. Understanding the Users and the internal actors

The sessions with external actors allowed the team to identify that, unlike typical working environments, access to some key resources for work was restricted. For instance, the teleworker did not control their time and mobility towards the working stations inside prisons, but rather other internal actors such as guards and education supervisors. Based on this discovery, we adjusted the second stage to avoid any friction and maximize participant involvement.

**2.1 Main goal:** The session's objective with the prison's staff was to achieve a general picture of how the prison dynamics worked. The prison's blueprint helped the actors to explain this information better than an interview. It was as if they were giving the team a tour of the establishment and its routines.



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As for the prisoner's portion, it was aimed at understanding their daily routines and the expectations in the long term for them to get involved in any educational or working activity.

**2.2. Main activities:** Two workshop sessions were conducted: one with the direct custodians, the staff, and the prison's director and another with the prisoners only.

**2.2.1 Prison's map:** The first group used a blank canvas where they drew the prison's blueprint. During the drawing exercise, the moderator asked questions about the daily routine of the prisoners and how their productive and educational activities were developed. (Figures 4 and 5)

**2.2.2 Past and future Expectations map:** For the prisoner's group, two canvases were used: one asked for past and present information about who they were and what expectations they had about the program. The second asked for future information about their life plan and why learning ICT skills could help them achieve it. (Figures 6 and 7)

**2.3 Deliverables and learnings:** The biggest learning during this stage was that ICT adoption was common in prisoners' daily routines. However, internet and computer access was not regular due to prison restrictions. Additionally, it became apparent that the participants had a busy schedule, including other activities as important as the telework program, such as bible study, handicraft making, and laundry service.

The deliverable for this stage was a series of experience maps and insights from workshops with internal actors and users. Furthermore, the first two stages helped identify pain points and friction for delivering a telework service inside prisons and communicated these to stakeholders so that they could take action to fix flaws in regulations and prison dynamics.



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Figure 4. Prison's staff participants drawing down the prison's map. Photo by MinTIC Innovation team.

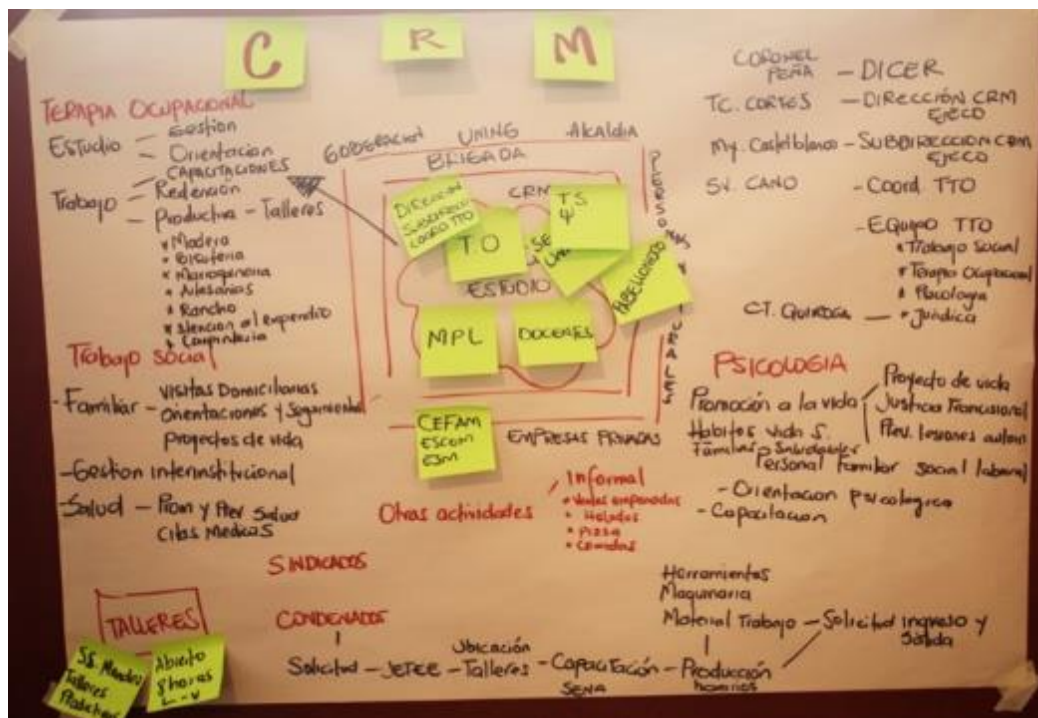


Figure 5. Result of a drawing of the prison's map done by the prison's staff. Photo by MinTIC Innovation team.



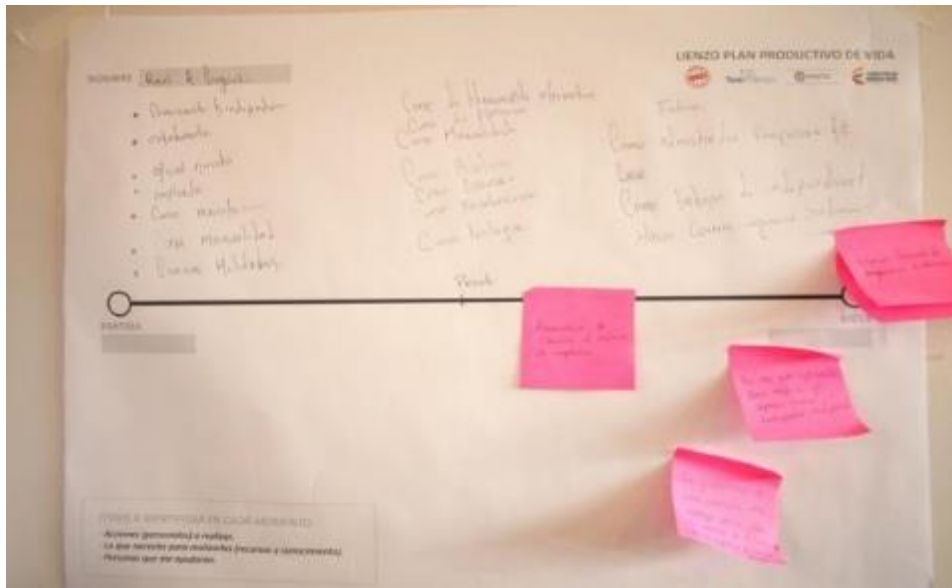


Figure 6. 'Plan productivo de vida' canvas filled in by the prisoners participating in the telework program. Photo by MinTIC Innovation team.



Figure 7. Workshop participants discussing the information written down on the canvas. Photo by MinTIC Innovation team.



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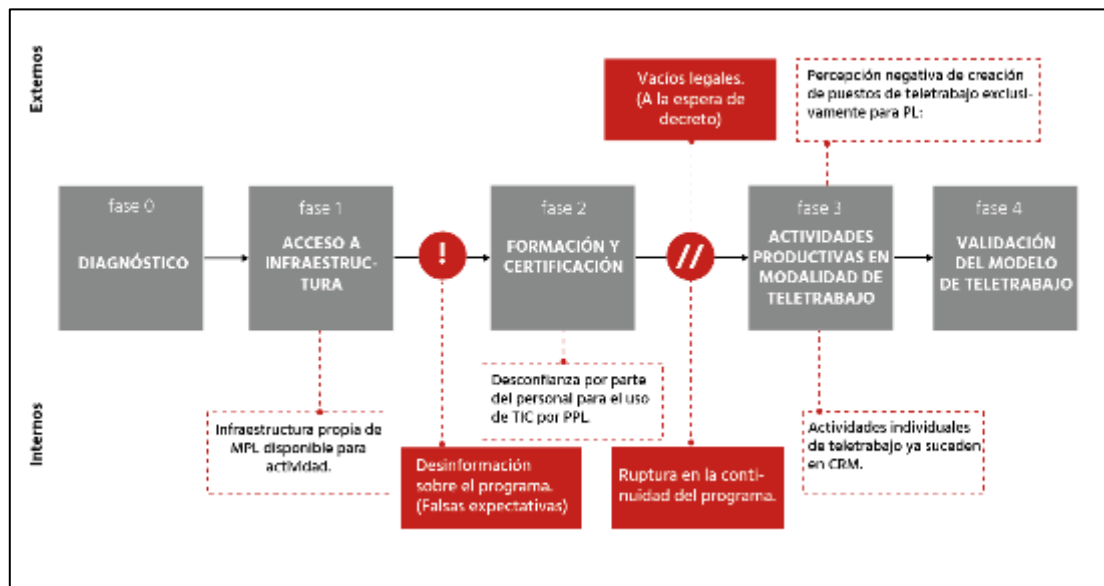


Figure 8. Diagram with the program phases and pain points. Diagram by MinTIC Innovation team.

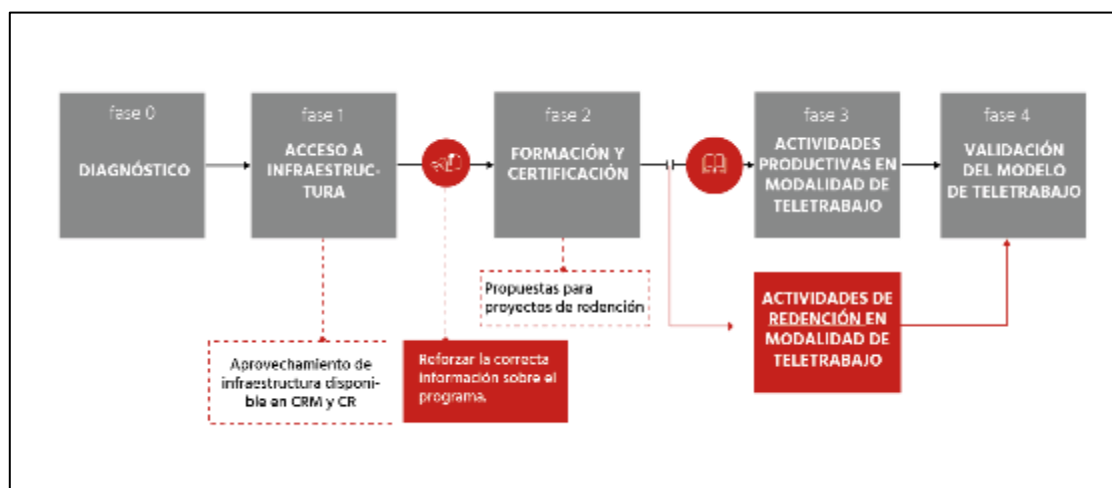


Figure 9. Diagram with the program phases and opportunities to intervene the pain points. Diagram by MinTIC Innovation team.

### 3. Prototyping a telework dynamic inside prisons

For this stage, the team availed from the installed IT infrastructure, as well as the extracurricular activities in prisons in order to conduct a prototype in four of the prisons that were initially mapped.



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- 3.1. Main goal:** Based on the insights of the previous stages, the team intended to test some hypotheses around the teleworking dynamics for prisoners and give evidence about the feasibility of implementing this dynamic in such an environment.
- 3.2. Main activities:** The stage presented three activities.
- 3.2.1. Ideation sessions:** These were conducted internally by the ICT Ministry team. A list of possible prototypes was produced, taking into account previous learnings and available resources.
- 3.2.2. Idea validation with stakeholders:** The final ideas were shared with some of the stakeholders in order to validate the use of internal resources that required permissions and time availability from the prison's staff.
- 3.2.3. Running the prototypes:** Two options were presented to the group and both involved the use of ICT in order to support another productive activity of the prison. It should be noted that these prototypes were not fully specified on purpose in order to co-create final details with the participants. The team expected the prisoners to establish which productive activity they wanted to support, the time to be spent on the exercise, and the final product to be delivered.
- 3.3. Deliverables and learnings:** Since telework is not as "visible" as other productive activities, such as bakery or handicraft work, it was necessary to "visualize" the participants' progress. In Tunja's prison, an analog board was drawn on the room wall so that participants could update it every time they had a working session, allowing guards to supervise their progress (see Figure 11).

In the case of San Andres' prison, which was our most successful prototype, participants created a website to promote their handcrafted products using Enterprise Resource software (ERP) that registered all the visits and changes during each session. In this case, participants allowed their custodians to participate in content production for the website, increasing their level of trust and enabling them to work longer sessions with no interruptions. At the end of the prototyping stage, the four prisons delivered their products with different levels of accomplishment, demonstrating to the team that implementing a



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teleworking dynamic inside prisons was a possible and feasible service for the private sector.



Figure 10. Session to discuss the final details of the prototype at the San Andres' prison. Photo by MinTIC Innovation team.

PARTICIPANTE	ACTIVIDAD	ENTREGABLES	PROGRESO					
			0%	20%	40%	60%	80%	100%
[Handwritten Name]	[Handwritten Activity]	[Handwritten Deliverables]	●	●	●	●	●	●
[Handwritten Name]	[Handwritten Activity]	[Handwritten Deliverables]	●	●	●	●	●	●
ALEXANDRA	[Handwritten Activity]	[Handwritten Deliverables]	●	●	●	●	●	●
[Handwritten Name]	[Handwritten Activity]	[Handwritten Deliverables]	●	●	●	●	●	●

Figure 11. Follow-up board located in the computer room at the prison in Tunja. Photo by MinTIC Innovation team.



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Figure 12. Participants at the San Andres' prison receiving information about the software they were going to use during the prototype phase. Photo by MinTIC Innovation team.

#### 4. Readout of the Design process

During this stage, the team informed external actors about the findings of the design process. The results were presented to MinJusticia, INPEC, the District, the military forces, and the public work agency during a Telemarketing committee. This presentation and subsequent discussion were crucial to integrate these findings into the redesign of the program. The findings not only helped to design the program's implementation protocol but also impacted the way external actors perceived the prisoners' capabilities when having an ITC certification and resources to offer this type of service to the private sector.

By the end of the design exercise, the Telemarketing program in prisons was in the process of publishing its website, where users could access the protocol, regulations, and all the design processes used to refine the program's model.



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Figure 13. On-line follow-up with participant's at the San Andres' prison. Photo by MinTIC Innovation team.



Figure 14. Participant's receiving their telework program certification at the San Andres' prison. Photo by MinTIC Innovation team.



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## Learnings and conclusions

**Value is what is seen:** Since the value of telework must be evidenced both for prisoners who are curious about "How does this help me to profile myself and earn money?", as well as for caretakers and employers who doubt how the working process is going, the inclusion of touchpoints that visualize the working process is key to reinforce trust between prisoners and their caretakers, as well as providing continuous updates on the status of their projects to other stakeholders.

**New roles in the backstage that allow for resocialization:** The design process revealed one of the main internal frictions to be the reliance on caregivers and their preferences or moods to allow for teleworker movement in order to meet the typical telework workday in the prison environment. This tells us that new roles requiring greater trust from the caregivers should be allowed for prisoners, which not only ensures the proper development of the service's backstage, but also contributes to their resocialization process, which is ultimately the main goal of the program.

**Telework in prisons as a two-way service:** The mapping of the internal and external ecosystem of prisons allowed highlighting that this service design is quite particular due to its dual nature of serving clients (private company) and beneficiaries (prisoners), as the company seeks to deploy its service through a team of teleworkers, but at the same time, these teleworkers would be going through a process of reintegration into civilian life through the delivery of that service to the company. While this is extremely valuable, it also presents the challenge of articulating the different components of the service so that there is balance in the delivery of value to both clients and beneficiaries.

**Service design as an agent for policy discussion:** Despite starting as a design process within one entity (MinTIC), the process led to the involvement of other entities that had equal responsibility in the implementation of the project. Entities such as MinTrabajo and workers' compensation insurers, inevitably began a discussion about the right to dignified work and the evolution of labor and security policies in restricted environments such as prisons. This demonstrates how the entangling nature of service design brings together different actors and spaces to create value. However, although the discussion was initiated, it is necessary for these entities to mobilize resources to act on what was discussed and thus contribute to the successful implementation of projects like this one.



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