SEARCH AND RECOVERY OF STOLLEN CARS WITH PAID PARKING: INNOVATION AND OPPORTUNITY IN JOINT WORK BETWEEN PUBLIC-PRIVATE SECTORS

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Resume:

The robbery of cars, in different ways, has become an important problem of public security and fear perception in the chilean community. During the year 2012 existed 35.439 complaints for crimes that affected vehicle fleet, while the year 2016 has been registered 40.077. In this same period has produced a strong increase of 13.9 % in this illicits.

Also must be considerer for the analysis, that the vehicle fleet in the country has been increased over the 5 %. Only in the year 2012 they existed 4 millions 100 thousand vehicles, today have a 5 millions.

The violent crimes, in difference of others countries in the región, are lower. In the year 2017 the homicides for every 100 citizens was 3.3. Chile was the country with the lower rate in south-america, but, the crimes against the property affect mostly to the population.

Chile is a unitary country, and is administratively divided in 15 regions. Each and every one of them has provinces, and the smallest government estate are the commune, wich are in charge of a mayor (alcalde).

The national police force is Carabineros de Chile, integrated by 58.000 peoples distributed in 1.290 polce stations along the country, depend of the central government and is the only uniformed pólice institution of the country.

In many sectors of the chilean territory, you can park in the streets, without any charge. However, in places of greater demand or vehicles concentration, specially in the business neighborhoods, generally there`s more concurrence of peoples and also incidence of crimes. For this, exist some communes who installed systems of payment parking lots, this is parking meter, who are delivered in bidding processes to private company who makes the exploitation of this product.

This initiative became like a solution based of the coordinations   between the private and public world, for a innnovation and technological improvement, but mostly, the teamwork in this process. This allowed, to use the parking lots payment system for locate stollen vehicles, but mainly, with the objective of inhibit the arrival of thieves in stollen cars: The challenge was to attack, from this way, the logistics and essence of the crime.

A. Scanning:

The problems in the área of public security are many, for this is essential to see what elements, phenomenon or complexities has more impact tan others in this matter. Besides always its available to innovate and search a way of joint solution with others society estates.

In this context, it must be precise an increase of vehicle fleet in the country. In fact, the bests economics conditions and free trade treaties has allowed to more citizens to buy cars. Is without question, an important property for every chilean- like transportation, confort and security in the displacement- however, also increased the robberies figures of this ones, this impact in the security sensation and respective victimization.

The problem was identified for the statistics comparation of the crimes that affect to the vehicle fleet, that was in a big increased. Similarly, for the insecurity perception in the people, in different polls and social comunication media, has become in a recurrent theme.

Carabineros de Chile has the advantage of have a national charge system, which is the exclusive data base where they enter the complaints for vehicle theft, for this reason the statistical detail its very exact, allowing to measure what happens whit this phenomenon.

This issue was identified by the Operations Chief of the Search and Charge vehicle Department of carabineros de Chile, Major Diego Rojas Daydí, and his analysts team. The Search and Charge vehicle Department of carabineros de Chile its a Police unit with his principal quarters in Santiago, in there, around 150 policemen between Santiago and the rest of the country, are in charge to check the registry of solutions and charges of the stollen vehicles and do some research and prevention of this specific situation.

After analyze the crime phenomena associates to vehicle fleet crimes, we have varied and different questions: between them, its how to recover more vehicles and in the less time.

Historically, this same unit was already work in coordination with malls and park business, with the objective of detect the entry of stollen cars by Reading his license plate with a machine.

This system maintained high indices of mistakes in the reading processes, this situation happens because the ALPR program fails in many cases. Even so, it was an important Advance. But the question was what more can we do working together with other people.

The initial diagnostic level was the reality of the country, mainly the crimes of robbery and stollen cars. For this we use 20 of 346 communes of the country, to find a solution

B.- Analysis

We use the National data base of stollen cars, findings spot observations, the use of stollen cars to commit other crimes, the place where they commit the crime, between others interest factors

This problem was studied during the 2016 and apply   during the 2017. While this is a problema of national security problem, it has determine that is a good option for advance in more complete solutions.

The people who integrate this process, are the victims of the stollen cars, the insurance companies, the township and mayors, the local business and whole community for the fraid they felt.

This increased of stollen cars it has been translated in important economic losses, this situation because only in insured vehicles during the 2016. The companies paid 75.000.000 US Dollars

The crimes associates to this situation, they faced only with police work: searching vehicles with patrols, one to one, with a few results.

This analisys reveals the increased of stollen cars at the same time that the vehicle fleet , also the rate of recuperation stollen cars is lower. In the same time, the problem has a national scope and is one of the principal worries of the community, and the police work in this issues   was isolated and imprecise.

The causes of this problem has many factors, but its mainly related with the increased of vehicle fleet, the isolated pólice work, the opportunity the thief has to use the stollen cars without been discovered and the utilization of opportunities and information.

In this way, it was analyzed the places and circunstances of occurrence, besides the sectors of findings, and to wich sides the thiefs moves with stolen cars to comit crimes.

Also incorporated the streets who maintained paid parking.

The perspective of the community was that, the pólice has a defective job of law enforcement

3.- Response

It was consider that the search in malls with Reading license plates system, has many controls, but a lower quiantity of match.

The analysis allowed to see that many of the stollen cars was used by the thief for transportation use or stole in other places, specially in down town, with many parking lots in the streets, what makes difficult see the license plates.

In this observation, we can see, that in places where they has stollen cars and where thiefs came to commit crimes, they had debt collector whit digital system who can calculate the prices of parking lots and realice the payment. This is when you arrives and when you leave.

After that, we make reunions with this parking lots companyes and the city hall and créate a better forms to use the information they had.

After this reunions, when the debt collector make the payment, the information goes to the company and to the pólice central station. Whit this they had in real time the stollen car location, giving the alert to the most nearest policemen to capture the thiefs and recover the cars.

Todat this is working perfectly, with a public part (Carabineros and City Hall) and private (payment companies)

In this way, all the parts participate in a synergistic work, everyone with responsabilities, in a improvement process

In this context, the answer is highly innovative and creative, and allowed with imagination, good effort and low costs, make thing for common benefit.

With this results, we hope to implement this work in other communes of the country.

Proceso de verificación
(Vehículos robados)

Verification process
(Stolen vehicles)

CENTRAL DE COBRO

CENTRAL COLLECTION

P

ENVÍO DE DATOS
SENDING DATA

ENVÍO DE DATOS
SENDING DATA

CENTRAL DE DATOS
DATA CENTER

POLICE RESPONSE
RESPUESTA POLICIAL

ALARM ACTIVATION
ACTIVACIÓN ALARMA

4.-Assesstment.

For this evaluation has been used the statistics of recover cars and arrested people for this solution, this was interesting in compare with other tool like the license plates Reading system in malls

With this quantitative evaluation, we had make interwievs in neighborhoods and to pólice chiefs and they match in the same feeling, it is a useful solution and bring tranquility to their lives.

This solution reduce damage of crime, recovering the cars in less time, avoiding insurance payments business. Also avoid the thiefs drives these vehicles to certain sectors, contributing with crime prevention.

The most important is that the present initiative shows the work between the private and the public sectors and with innovation, meaning and conversation alowed to make improvements in the security of many actors.

All this information makes part of an integral solution and it must be complemented with many others, but has the advantage because can be used with a low cost in anywhere with payment parking lots and is very effective.

During the development of this solution, in the year 2017, in the 20 communes where it was applied, it was possible to recover 288 stolen cars and 107 criminals were arrested, so far in 2018 there are 154 vehicles recovered and 66

arrested, that is to say with a projection of growth, without counting that the communes in which the program is applied is 6% of the territory, that is, it has a potential for growth and it is also applicable to other places outside of Chile.

If selected in this important world level activity, it would mean giving support and creating interest in government authorities to expand its implementation.
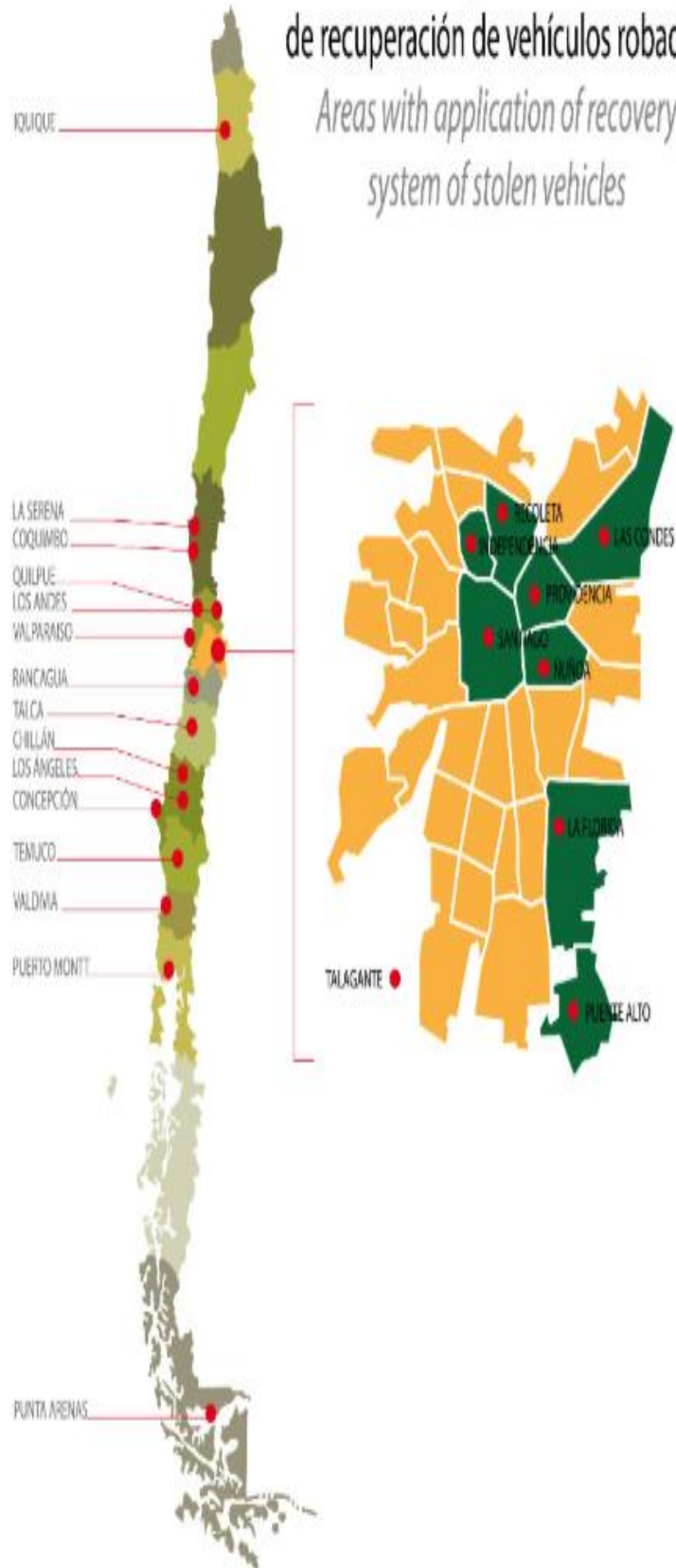
QUANTITATIVE ANALYSIS OF THE PROBLEM

TIPO DE DELITO/TYPE OF CRIME	AÑO 2012	AÑO 2013	AÑO 2014	AÑO 2015	AÑO 2016	AÑO 2017
APROPIACION INDEBIDA/UNDUE APPROPRIATION	2.180	2.295	2.565	2.658	2.860	3.374
ESTAFA/FRAUD	76	101	96	114	158	114
HURTO/THEFT	806	1.122	1.527	1.711	1.847	1.932
ROBO/STOLE	30.012	29.686	31.740	30.798	29.129	29.512
ROBO ARMADO/ASSAULT WITH ARMS	2.365	3.125	4.079	6.519	6.083	8.132
TOTAL ENCARGOS	35.439	36.329	40.007	41.800	40.077	43.064

VARIACIONES CON AÑO BASE 2012/ VARIATIONS WITH BASE YEAR 2012					
TIPO DE DELITO/ TYPE OF CRIME	AÑO 2012/2013	AÑO 2012/2014	AÑO 2012/2015	AÑO 2012/2016	AÑO 2012/2017
APR. INDEBIDA/UNDUE APPROPRIATION	5%	18%	22%	31%	55%
ESTAFA /FRAUD	33%	26%	50%	108%	50%
HURTO/ THEFT	39%	89%	112%	129%	140%
ROBO/ STOLE	-1%	6%	3%	-3%	-2%
ROBO ARMADO/ASSAULT WITH ARMS	32%	72%	176%	157%	244%
TOTAL ENCARGOS	3%	13%	18%	13%	22%

VARIACIONES CON AÑO ANTERIOR/ VARIATIONS WITH PREVIOUS YEAR					
TIPO DE DELITO/ TYPE OF CRIME	AÑO 2012/2013	AÑO 2013/2014	AÑO 2014/2015	AÑO 2015/2016	AÑO 2016/2017
APR. INDEBIDA/UNDUE APPROPRIATION	5%	12%	4%	8%	18%
ESTAFA/ FRAUD	33%	-5%	19%	39%	-28%
HURTO/ THEFT	39%	36%	12%	8%	5%
ROBO/ STOLE	-1%	7%	-3%	-5%	1%
ROBO ARMADO/ASSAULT WITH ARMS	32%	31%	60%	-7%	34%
TOTAL ENCARGOS	3%	10%	4%	-4%	7%

Comunas con aplicación de sistema de recuperación de vehículos robados

Areas with application of recovery system of stolen vehicles

IQUIQUE

LA SERENA
COQUIMBO

QUILPUE
LOS ANDES
VALPARAISO

RANCAGUA

TALCA

CHILLÁN

LOS ÁNGELES

CONCEPCIÓN

TEMUCO

VALDIVIA

PUERTO MONTT

PUNTA ARENAS

RECOLETA
INDEPENDENCIA
LAS CONDES
PROVIDENCIA
SANTIAGO
ÑUÑOA

LA FLORIDA

TALAGANTE

PUENTE ALTO

SCHEME OF USE THE INFORMATION

CENTRAL DE COBRO
CENTRAL COLLECTION

Central de datos de vehículos robados
Central database of stolen vehicles

ENVÍO DE DATOS
SENDING DATABASE

Activa alarma
Alarm activation

Respuesta policial
Police response

A

B
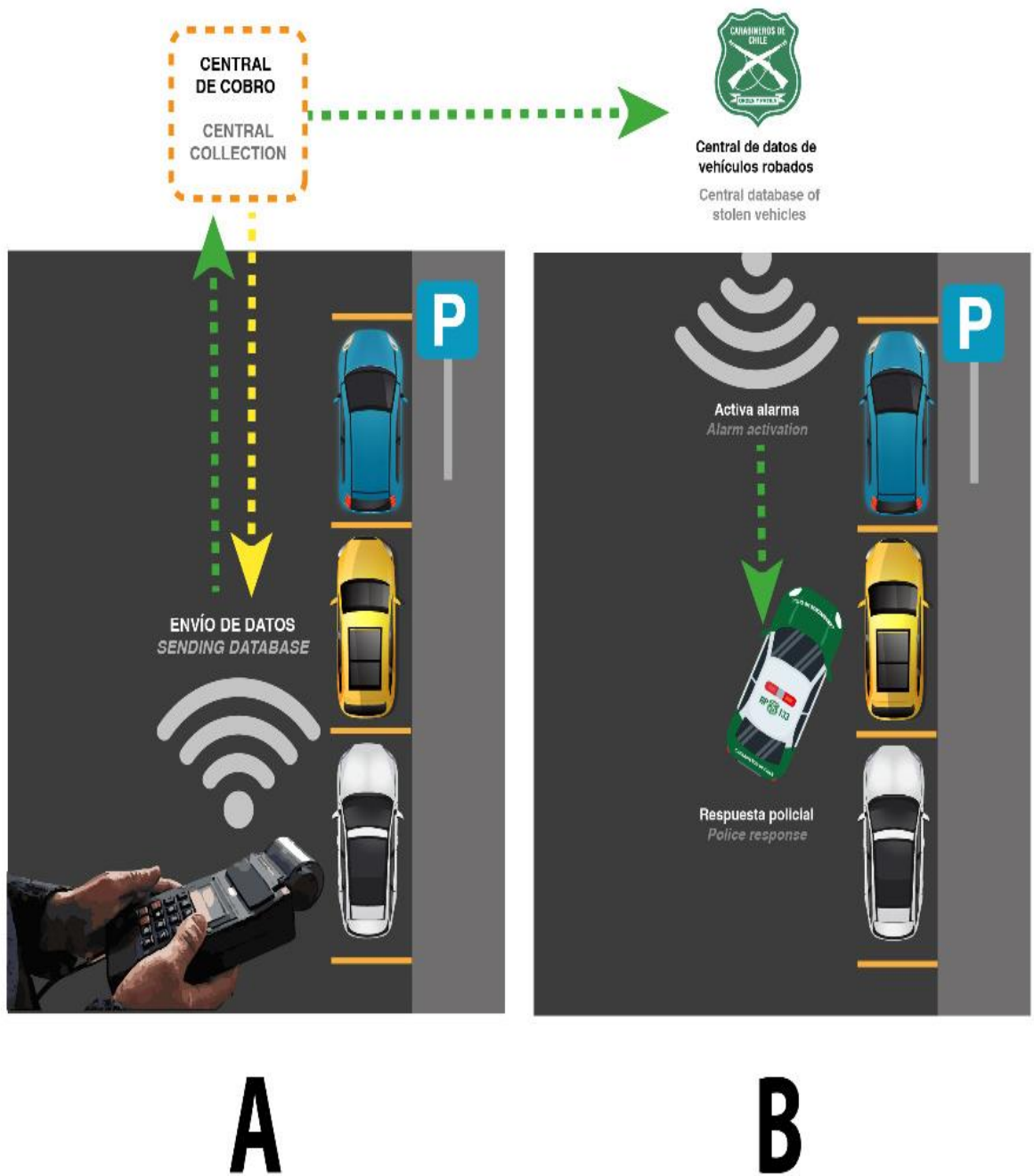
A: Previus Mode
B: Mode with solution.

WORK TEAM :

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