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 illicit.

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, which are in charge of a mayor (alcalde).
The national police force is Carabineros de Chile, integrated by 58,000 peoples distributed in 1,290 police stations along the country, depend of the central government and is the only uniformed police 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 innovation 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 is a Police unit with its 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 stolen vehicles and do some research and prevention of this specific situation.

After analyzing the crime phenomena associated to vehicle fleet crimes, we have various questions: between them, how to recover more vehicles and in the least time.

Historically, this same unit was already working in coordination with malls and park business, with the objective of detecting the entry of stolen 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 stolen 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 circumstances 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 quantity 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 thieves 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 create 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 thieves and recover the cars.

Today 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 responsibilities, 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.
4.-Assessment.

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 interviews in neighborhoods and to police 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 thieves 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 allowed 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

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<tr>
<td>APROPIACION INDEBIDA/UNDUE APPROPRIATION</td>
<td>2.180</td>
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<td>ESTAFA/FRAUD</td>
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<td>HURTO/THEFT</td>
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<td>1.711</td>
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<td>ROBO ARMADO/ASSAULT WITH ARMS</td>
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<td>TOTAL ENCARGOS</td>
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<td>40.007</td>
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| VARIACIONES CON AÑO BASE 2012/ VARIATIONS WITH BASE YEAR 2012 |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 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 |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 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
A: Previous Mode
B: Mode with solution.
WORK TEAM:

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Cape 1° Wladimir Castro Aguilera