1. OVERVIEW:

In August 2020, there was an increase on car robbery cases in the city of Lajeado, where the Precinct for Repression of Organized Criminal Actions, of the Civil Police of the State of Rio Grande do Sul, is located. This department is responsible for the investigation of serious crimes and criminal offenses with greater offensive potential.

In some of these organized crime cases, there was physical aggression towards the victims. In one particular case, an elderly lady was assaulted by a suspect when she was arriving to work in her car. The suspect used brutal force to grab her and get her out of the car, throwing her on the ground, kicking and injuring the victim, demanding she handed the car keys. The criminals got away with stealing this car and another car robbery went on soon after.

In this context, the team of agents of this Precinct was assigned in a task force to find the criminals responsible for this robbery. It would be necessary and important to use all the technological means available, as well as advanced investigation techniques, to analyze the *modus-operandi* of the offenders, and find the individuals truly responsible for the crime, to bring them to justice and judge them with the strength of the law.

2. THE CHALLENGE:

It was necessary to investigate the details of the *modus-operandi* of the offenders during the criminal actions, using camera footage of surveillance systems to find some other vehicle used in the criminal action, as well as to identify the similar conduct of physically similar suspects, some which were already known by the agents of this Precinct.

During the investigation, it was verified that one specific car was nearby the robbery locations every time. With this information, the owner of the car was located. Through confidential police information, complemented by information acquired on open sources (Open Source Intelligence – OSINT), it was discovered that the owner of the suspected car was an individual without criminal identification, but with connections to friends/partners with priors of car robbery/theft related crimes, already known by the police.

In possession of this information, the task force began working after more data about these suspects. Also, pictures of the suspects were presented to the victims, and one of them was

identified by the assaulted victim. By consulting the justice system database, it was verified that this suspect had a long sheet of criminal records, a lot of serious crimes included. Besides, this individual was spotted nearby the locations of the car robberies by witnesses.

With these evidentiary elements, a search warrant was requested to the judge – which was granted – in order to collect more important evidence to corroborate the crimes and link it to its perpetrators. In the execution of the search warrant, cell phones belonging to the suspects, as well as clothes used by them during the crime, described by the victims, were apprehended.

Despite the successful apprehension, all the cell phones were password protected, except for a brand new recently activated Apple Iphone 6, which appeared to have not been used very much, thereby, few information was extracted from this device. There was no evidence of the investigated crime in this cell phone.
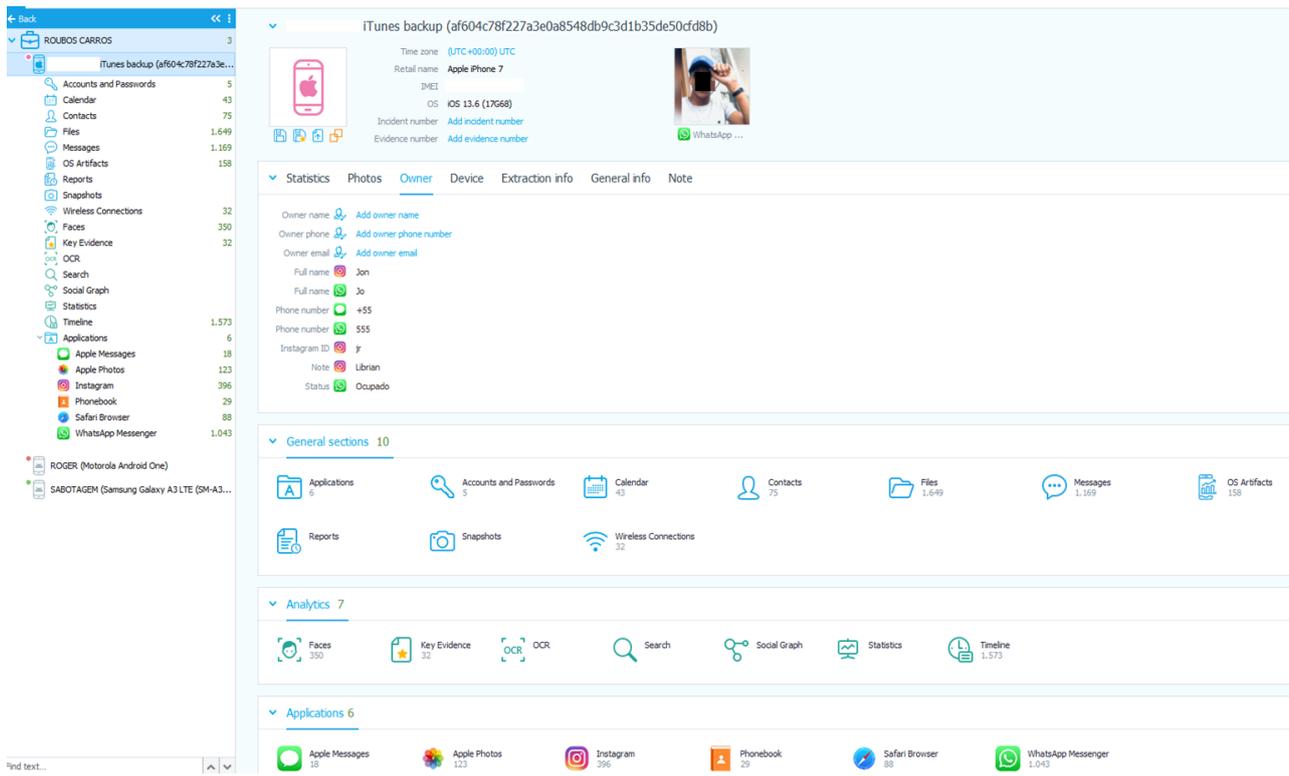
3. SOLUTION:

Using Oxygen Forensics Detective, it was possible to do a complete logical extraction of the mentioned Iphone 6, through the IOS Advanced Extraction technique, in which some passwords used by the suspect were recovered. Amongst these passwords was the password to unlock the other apprehended cell phone, and with this another logical extraction was performed in this mentioned second cell phone, using the IOS Advanced Extraction technique.

A lot of information was acquired through this second extraction, which was only possible because of the successful first extraction of the Iphone 6, that provided the password to unlock the second device.

Using the forensics techniques in the extraction of data executed by OFD, when examining the digital evidence some recovered pictures of the stolen vehicles were analyzed. These contained metadata of location, and this location had been registered when they were hidden in secrets spots of the criminals. Also, some WhatsApp conversations were recovered, and in those conversations the offenders were negotiating the stolen cars with other criminals, who would receive the vehicles and manipulate the Vehicle Identification Number of them, and then sell them to other people, as well as some vehicles parts.
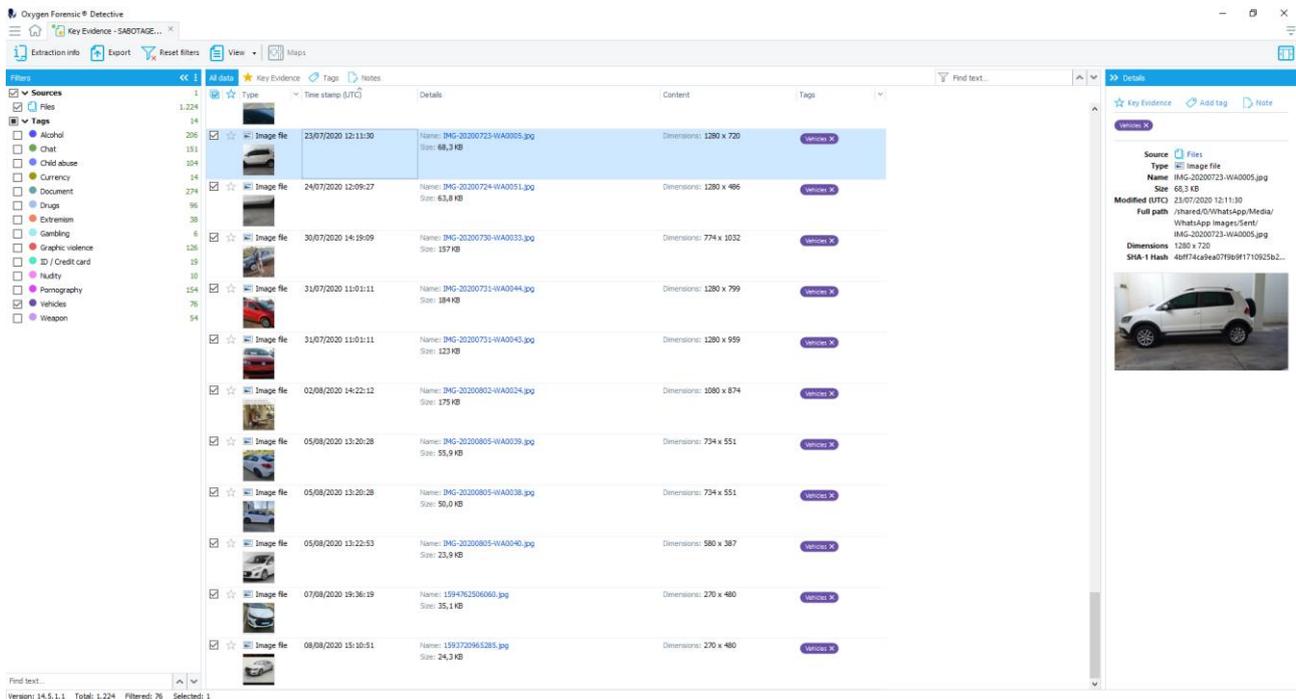
(Picture 1 – print screen of the screen seen by the agents on the OFD of the extraction of the Iphone 6)

By using the tool "key evidence", which classifies the pictures using OCR, it was possible to find the pictures of the stolen vehicles in the cell phone, vehicles which were hidden in a secret place known only by the offenders. Those pictures were taken in order to offer them in the black market, or to sell their part, also illegally.

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(Picture 2 – print screen of the screen seen by the agents regarding the second cell phone used by the criminal, which contained the pictures of the stollen cars)

Through the exam of the data collected in the digital elements, an extraction report was developed, containing all the digital forensics evidence necessary to corroborate the crime and proof who committed it. At the end of the investigation, the Chief of this Precinct, Dinarte Marshall Jr., indicted the suspects and represented for their imprisonment, what was granted by the judge, bringing comfort to the society and reestablishing the feeling of security to the local population, as well as bringing public recognition to the Precinct for Repression of Organized Criminal Actions agents for the services provided in the city of Lajeado.

(Picture 3 – print screen of a local newspaper website with the news of the arrest of the criminals responsible for the series of car robberies in the city of Lajeado)
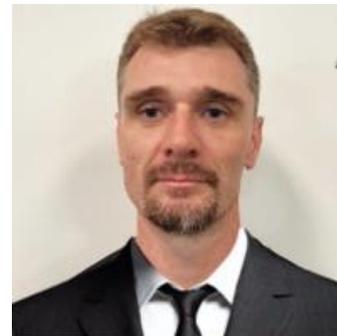
After this investigation was closed, the numbers of car robbery crimes decreased considerably.

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