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## **Validas**

### ***Digital On-Boarding System***

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1	24/01/2018	Validas Documentation	SGP	EMR	EAL

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# 1. Validas - Digital On-Boarding System

## 1.1. Introduction

Validas is a Master Service conceived to carry out non-presential customers identification, ensuring the following aspects:

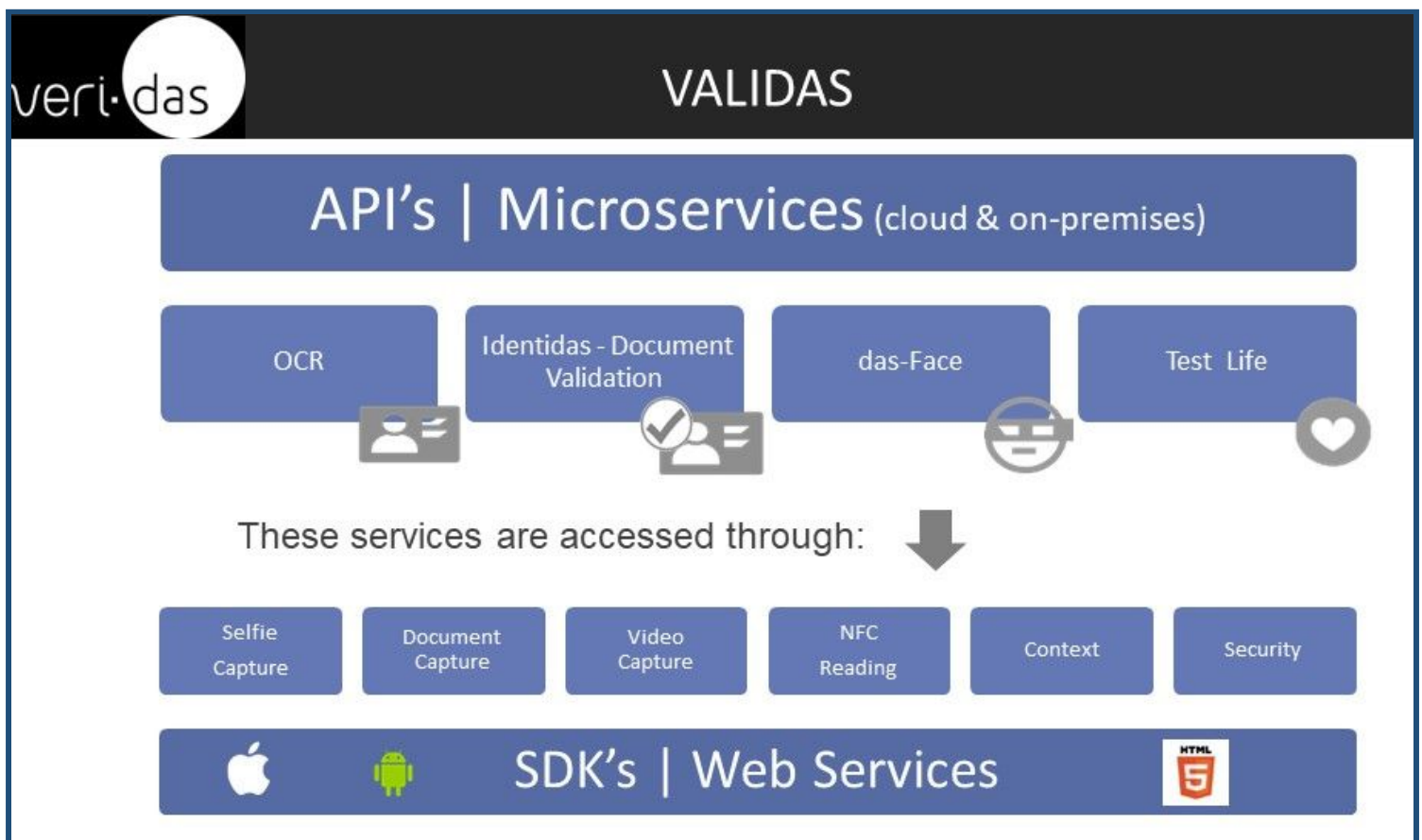
- Document authenticity
- Ensure that the holder of the document is its legal owner.

The service puts together and **coordinates diferentes APIs** to offer a full experience.

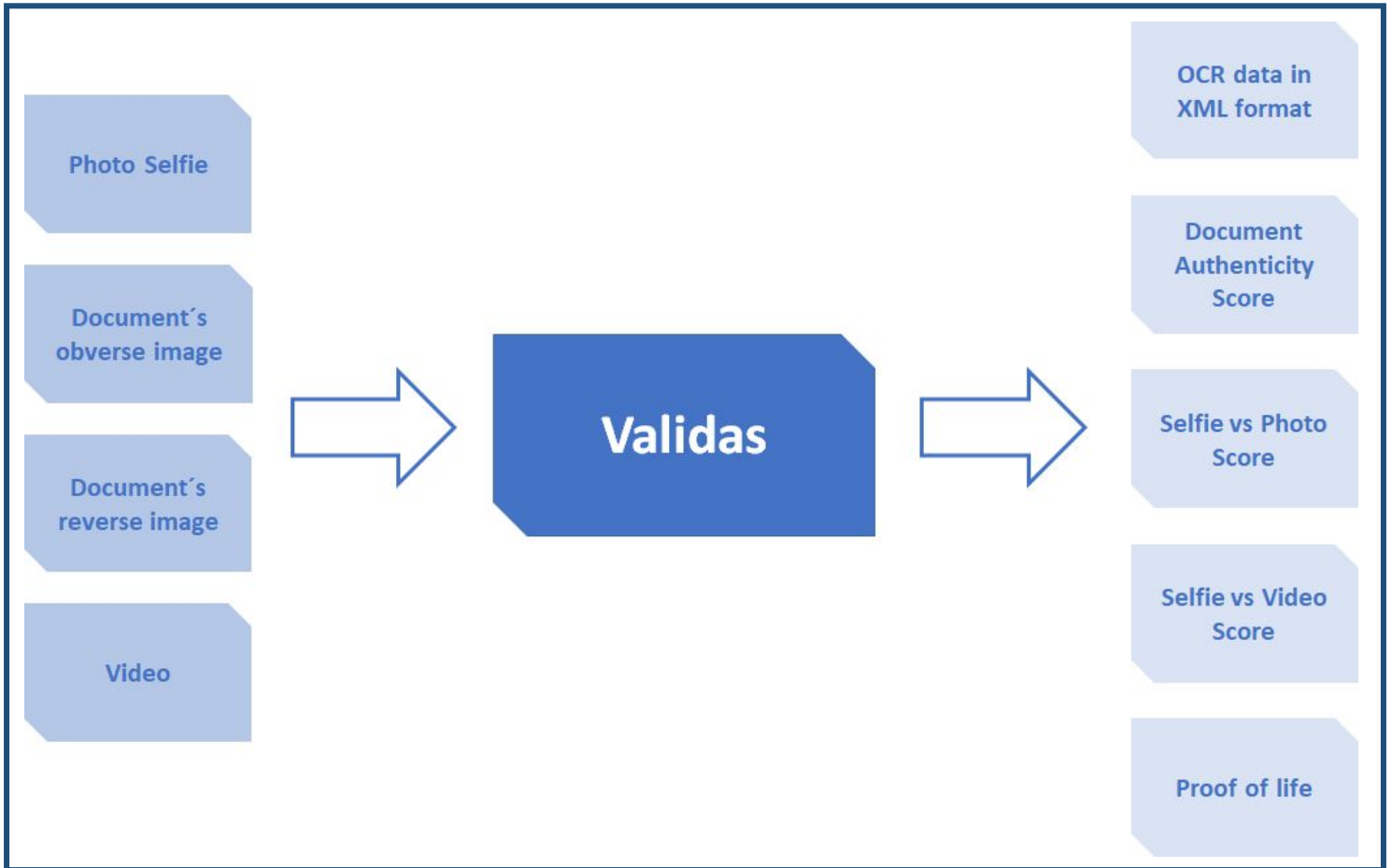
Any customer could create its own Validas using Veridas API's.

## 1.2 How it works?

The on-boarding process carried out and coordinated by Validas, follows certain logic steps executed by sequential SDKs and APIs/microservices proprietary of Veridas. These SDKs and APIs are fully modular, so the customer has also the chance to combine them with its own ones to create a customized on-boarding solution.



The chart below represents the inputs that Validas receives (left column) and the results that the service provides after processing the information received (column on the right).



The Video is optional.

The document images (obverse and reverse), photo selfie and video can be entered into Validas via:

- Veridas Capture SDK's: mobile and HTML.
- Customer capture systems: SDK's, scanners, a batch of files.

Validas is already integrated **in production environments**, being used by commercial banks and insurance companies and validating thousands of identities daily. Thanks to **Artificial Intelligence** algorithms developed by Veridas, the system is constantly improving.

## 2. On-boarding steps

In this point the On-boarding system coordinated and executed by Validas is explained. The user will follow the steps indicated in point 2.1 to send the document's images, selfie and video to the server. In point 2.2., the flow of the different APIs present in Validas is explained.

### 2.1. User's actions (SDK)

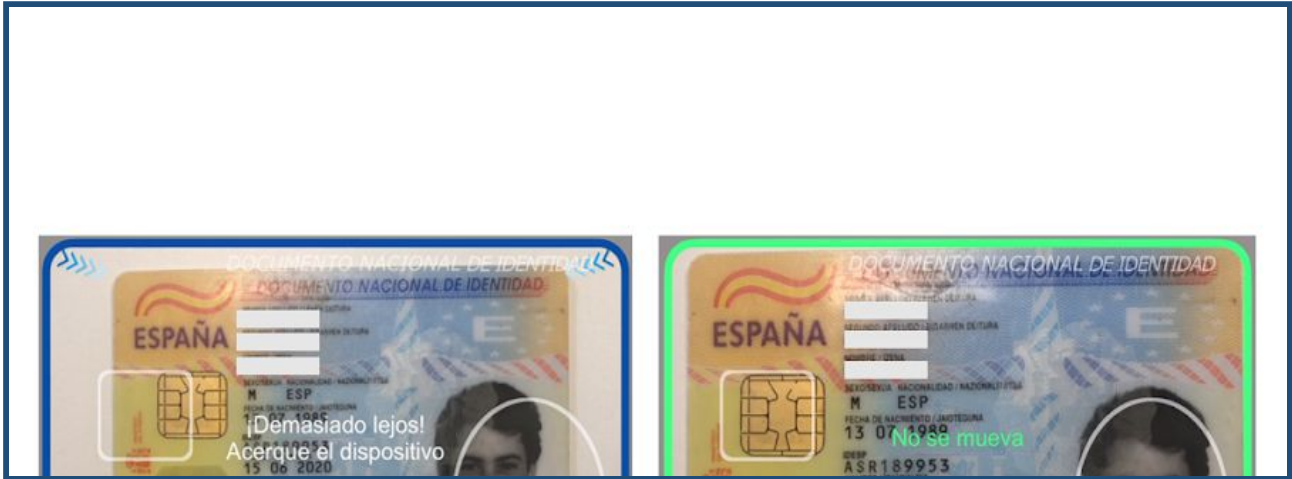
#### 2.1.1. Process Launching

The APP, that can be seen in the image below, launches the capture SDK.



#### 2.1.2. Automatic capture and document detection

The system automatically captures and detects the document. Validas will only launch the capture of the document if there is enough evidence of its validity so images different than valid documents will not be captured (landscapes, non-valid documents to the identification...). Consequently, the non-useful data traffic is reduced.



The image on the left indicates that the capturing device is too far from the document. The image on the right represents a good positioning of the capturing device so the application is asking the user to remain still.

### 2.1.3. Customer's Selfie capture

The system will automatically capture a selfie of the user.



#### 2.1.4. Customer's Video capture

Finally, the system will take a video of the user showing the obverse and reverse of the document.



The obverse and reverse of the document will be captured automatically. To go on with the process, the type of document showed in this step must be the same that it was captured in the previous step.

#### 2.1.5 Communication with the server

Directly from the mobile APP, or via HTML the captured resources (images of the document, selfie, video...) are sent to the server.

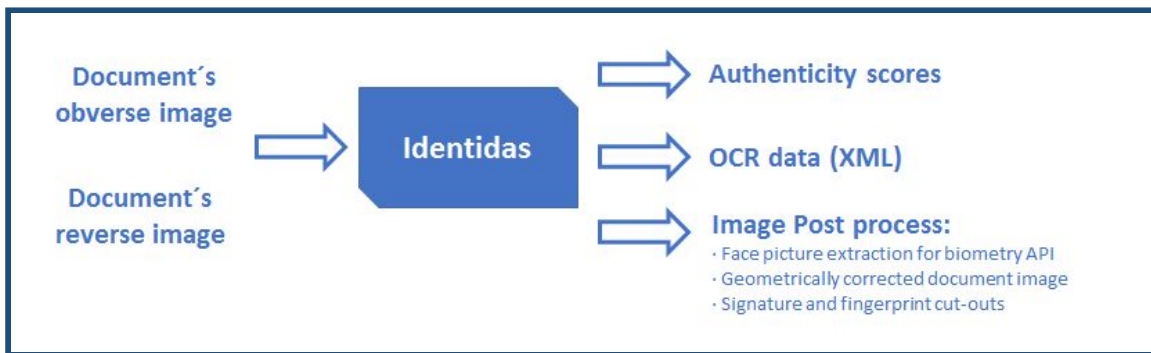
For the APP case, all the data captured is managed by the APP, which will be in communication with the server following the communication and security protocols defined by the client.

For security reasons, it is recommended that the client's APP doesn't save the captured resources in the device's memory.

## 2.2. Validas flow

### 2.2.1. Identidas

In order to ensure the authenticity of the document, Validas uses the input received from Identidas after having analyzed both the obverse and reverse of the document, providing a validity score of the document.



### 2.2.2. das-Face

Validas incorporates a facial verification services (das-Face) that can be applied to:

- Selfie image
- Printed image
- Image present in the NFC (if existing)
- Video

Given two faces, the system verifies the identity of the person doing the on-boarding process and returns a score based on the similarity of both.



#### 2.2.2.1 Anti-spoofing techniques (Optional)

das-Face uses three types of anti-spoofing techniques that can be added to Validas:

- Print attack (photo to photo).
- Replay attack (photo to screen).
- Duplicate attack (The compared photos are the same image).

das-Face is boosted by an Artificial Intelligence and Deep Learning software that is

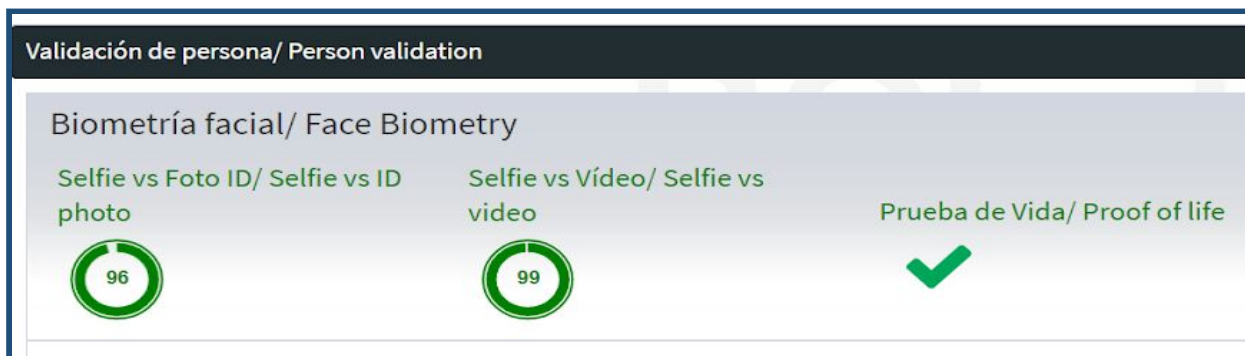


continuously improving its performance since it is currently in production, and analyzes a large variety of cases daily.

### 2.2.3. Veri-life

The comparison between the selfie photo and the document photo is not enough to ensure that the person doing the onboarding process is real and alive.

The system will check that the person using veri-Life is real and alive using different techniques such as anti-spoofing or live test.



### 2.2.4. boi-Das: Identity Back Office (OPTIONAL)

Validas is completed with a *back-office* service, in which it is possible to verify the results of the on-boarding process manually.

The customer can build its own back-office service.

This *back-office* service offers a main view which consists on a table where all the onboarding validations stored in the system's database are displayed. This table shows, for each entry, the user ID, the time of this validation, three scores (document authenticity, selfie vs ID photo biometric result, selfie vs customer video biometric result) and the result of the proof of life verification.

This table can be sorted or filtered to study a specific set of onboarding instances.

By clicking on any of the main boi-Das table entries, the user gains access to extra details about this specific onboarding instance:

- Detailed document validation scores.
- Detailed biometric scores.
- Document images.
- Images and the video used for biometric verification.
- Personal data extracted from document analysis module.
- Contextual data of the device used to capture information (if enabled in the user's device)