

DATA ENROLLMENT

Addressing today's challenges

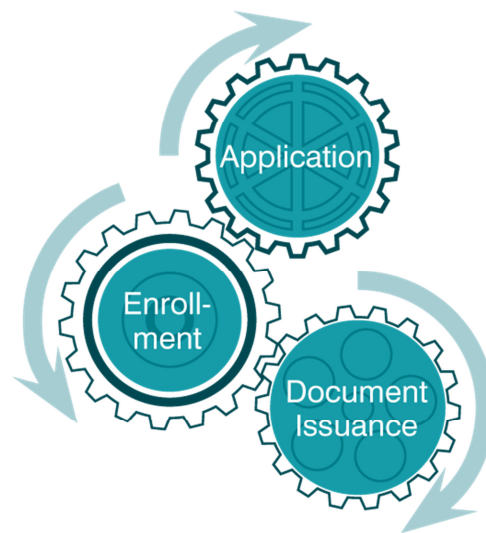


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1 Evolving Identification Standards

Global trends The continued increase in international travel and migration has caused a need for secure identification and verification of individuals worldwide. Therefore any identity document solution should cover demographic as well as biometric information. However, capturing these data in an efficient way can be a major challenge.

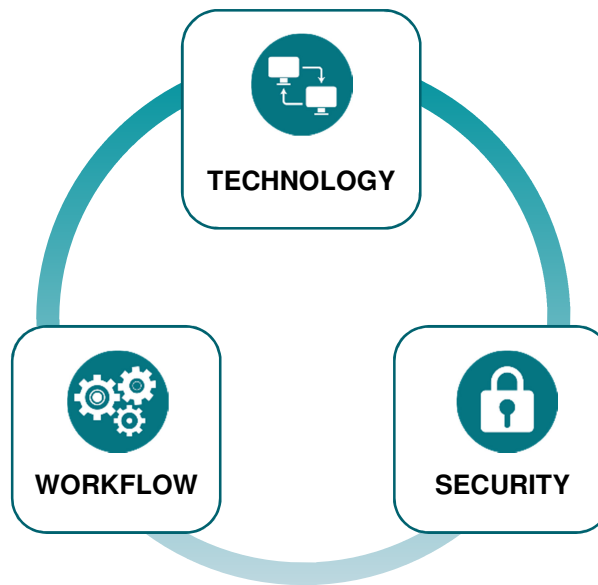


Objectives Ideally, every applicant can go to an enrollment office nearby, which is equipped with all the necessary devices. An experienced officer captures the applicant's data following the workflow routine for the relevant use case. Especially applications prepared online can be handled very quickly. Data security is ensured at all times.

Challenges Turning this vision into a reality requires comprehensive planning. According to project scope and individual circumstances, different aspects should be taken into consideration:

- number of individuals to be enrolled
- physical distance between applicants and enrollment offices
- available buildings and technical infrastructure, e.g. computer network
- available administration personnel

2 Key Elements of Data Enrollment



Suitable hardware equipment

- Devices for capturing biometric information
- Servers and backup infrastructure
- Administrator and operator workstations



Customized software solution

- Routines for guiding officers and applicants
- Variety of predetermined use cases
- Integration of peripheral devices



Reliable data protection

- Configurable user rights
- Strong user authentication
- Encrypted data transmission

3 Enrollment Solution Concept

Overview

To ensure the above-mentioned key elements in a complete data enrollment solution, all the process steps should be defined in advance and combined into an overall workflow. Therefore the customized software solution should provide an intuitive user interface that guides the operator, including entry masks for each data type to be enrolled.

Application

Applying for enrollment could work in different ways. Since a complete live-enrollment dialog between applicant and operator can be very time-consuming, it is recommendable to make applicants prepare their data in advance. Depending on local conditions, it has to be decided which of the following technologies and procedures best suits the purpose.



Online Application

An eGovernment website allows applicants to create an account and to enter their demographic information online, possibly also to upload their photo. By using this option, they can accelerate the live enrollment procedure at the registration office considerably.

Furthermore, an eGovernment website may allow applicants to schedule an appointment for live enrollment. This possibility can contribute to a more efficient organisation at the registration office, keeping waiting times short and simplifying queue management.



Form Application

Instead of applying online, applicants can fill in their demographic data into a paper form and hand it in at the registration office. When the form is scanned, the information is processed automatically, thus allowing for very quick live enrollment.

The applicant's photo and signature can be scanned in from the form as well, if the photo is compliant with certain biometric standards. Additional enhancement may be required.

Live Data Capturing

Live enrollment is the most important experience for the applicant. It should be organized and carried out in an absolutely professional manner, from appointment scheduling and queue management to efficient, applicant-oriented data enrollment executed by friendly, well-trained staff.

Information to be captured usually includes the applicant's demographic and biometric data. Furthermore, it may be required to scan existing documents to prove the applicant's identity. One consistent software workflow should guide the officer through the entire procedure, including integration of all biometric capturing devices.



Demographic Data Enrollment

Example: name, date of birth, address

Demographic information can either be inherited from a prepared (online or paper) application form or can be completed manually by the registration officer. A customized entry mask provides fields for all required data and indicates whether any mandatory information is still missing.



Biometric Data Enrollment

Example: face, fingerprints, iris, signature

In order to obtain a consistent quality, all biometric information can be captured live at the registration office. Photo camera, fingerprint scanner, iris camera, and signature pad are integrated into the software workflow. The graphical user interface (GUI) indicates whether the image quality is acceptable and whether any mandatory information is still missing.



Document Scanning

Example: paper form, photo, ID documents

Supporting documents, such as birth certificates or other identification documents, can be scanned to a file and stored with the applicant's captured data. Like for any other data group, providing a specific type of document can be mandatory or not. For any missing element, a screen message will point to the empty section.

Processing

The personal data captured during the enrollment procedure need to be optimized and the applicant's identity must be checked in existing databases. All of this can take place either during live enrollment or, afterwards, by dedicated officers for each process step.

Image Processing

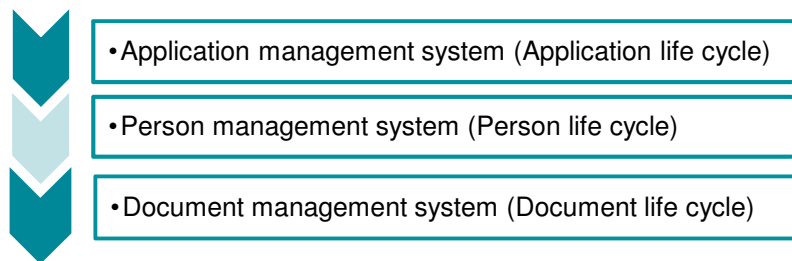
The results of biometric data capturing can be digitally enhanced by processing the images either manually or automatically. This is often necessary to improve the quality and to ensure compliance with international standards.

Identity Verification

If a complete or partial database of identities already exists, newly enrolled identities should be matched with existing data in order to avoid duplicates. A software-based identification process can detect potential matches and present them to the operator for manual clarification.

Data Administration

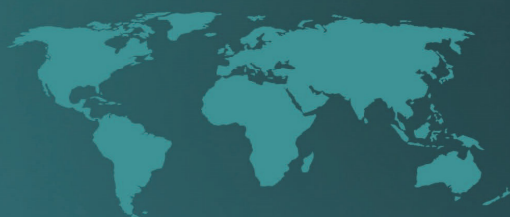
To benefit from the enrollment solution, every status must be continuously updated in all existing databases or life-cycle management systems, e.g.



Issuance

If any documents are personalized based on the enrollment data, the finished documents can be handed over to the applicant (then: document holder) either at the registration office or via direct shipment.

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