

Expanding Horizons: Ghana's First ePassport Project With IAI industrial systems

Project

At the end of 2023, we embarked on the groundbreaking Ghana ePassport initiative to secure the country's identity document. As in every other country, the need for having well-personalized and secure documents is of leading importance. This project was a significant milestone, not only because it marked our first collaboration with Ghana, but also because we are expanding our portfolio in Africa and thereby contributing to global development. The project was focused on transitioning from a paper to a polycarbonate document, integrating advanced security features through a combination of color inkjet printing and laser engraving techniques. This initiative has improved the standard for travel document security and personalization in the region.

Challenge

The Ghana ePassport project offered a unique opportunity, accompanied by challenges that required adaptability and strong organization. IAI industrial systems had to ensure the highest quality, thorough testing process within a very tight time schedule. Our experienced team controlled the situation from beginning to end, and

despite the project's advanced requirements and a short deadline of just one week to process the final feedback, the team's flexibility and effectiveness in developing solutions ensured a successful completion.

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Solution

IAI industrial systems was chosen to provide Ghana's ePassports with the most advanced personalization solutions to meet the country's needs. With Ghana's population surpassing 33 million, we delivered four BookMaster® Pro systems to our client, Biometric Travel Solutions LTD, at the office of the Ministry of Foreign Affairs. Additionally, IAI provided comprehensive training to equip the customer team with the necessary technical knowledge for routine operation and maintenance. To further support the project, IAI will conduct two preventive maintenance visits each year, ensuring the continued success and reliability of the ePassport system.

BookMaster® Pro

BMPro is a mid-volume passport personalization system, which can process up to 100 passports per hour equipped with advanced features to ensure efficient and secure processing.

Multiple elements were deployed in the BMPro systems, including:

- Automatic input unit
- Chip encoding unit
- Laser engraving unit
- Inkjet Printing unit
- Automatic output unit
- MLI engraving (Multiple Laser Image)
- Clear window engraving
- Tactile effects
- UV ink printing technology
- LCI (Laser Color Inkjet)
- Full color photograph

- BookMasterPro

Result

The Ghana ePassport project, finalized in October 2024, marks a key accomplishment, with the new passports being introduced in January 2025. This project introduced two formats of ePassports, 64 pages and 32 pages, both designed to enhance security and durability. To further stand out IAI industrial systems used a unique combination of two technologies – laser engraving and inkjet printing – to create a precise full color image. This initiative not only enhances security but also highlight IAI's commitment to extend its presence in the African market which is essential for future growth and development.

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Security Features

An unparalleled mix of advanced technologies contribute to the superior performance of the IAI industrial systems solution, including:

· Chip encoding

All personal data is encoded by the host, into the contactless chip embedded in the data page, using our systems.

Laser Engraving

Primary personalization information, including personal data, portraits, and windows, is laser engraved and embedded within data page 2 in the booklet, making it highly forgery-proof. A tactile feature is used in the process of engraving the text to provide an extra layer of protection.

• Multiple Laser Image (MLI)

Multiple laser image feature is engraved on the data page, allowing the holder's photo or personal information to be visible under different angles.

• Laser Color Inkjet (LCI)

Laser color inkjet technology creates a high-quality photograph making it fully colorful and brighter. Additionally, a transparent protective layer is added over the personalized photograph to prevent wear.

• UV printing

UV printing uses special inks that are invisible to the naked eye and only visible under UV light. A UV image of the holder is printed on Visa page 3 of the passport, facilitating easy inspection by border control authorities.

Verification

Cameras cross-check and apply visual data and features, while a chip reader verifies the electronic data to ensure that the personal information has been applied correctly.

Identification

Passports are identified quickly and accurately by identifying the barcode label located outside the booklet.



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