

Identity on Demand



Streamlining the Cost and Complexity of Identity Badging Projects

*Proper Planning and Management Using Secure, Web-Based Tools
Speeds High-Quality Credential Personalization and Production*

Implementing a corporate-wide badging project as part of a technology upgrade, regulatory compliance initiative or rebranding effort can be difficult and requires substantial resources, rock-solid security, and a combination of both IT and logistical support. Increasingly, companies are opting to outsource their badging projects to service organizations that have the scale and resources to handle large-volume orders with tight deadlines that would otherwise be difficult for an individual credential issuer or integrator to accommodate on its own.

It is important that the service provider have the right blend of expertise, card technologies, visual security elements, personalization and delivery services that are required to meet specific badging project needs. One of the industry's most comprehensive identity badging service offerings is available from HID Global. A key feature of the company's Identity on Demand service offering is its card services portal, which provides a simple and secure way for customers to upload and communicate all data, photos and other information to the service bureau, while reducing the cost and complexity associated with maintaining and operating a corporate-wide badging infrastructure. The portal makes it easier to manage and re-order existing formats, simplifies project status tracking, and enhances customers' access to HID's expertise and broad offering of contactless card technologies. In addition, the use of the portal increases confidence that sensitive data is protected and that issuance needs can be met within budget and on time with consistently high quality.

This paper will explore the planning and implementation steps necessary to ensure that an organization's badging project is successfully completed.

The Importance of Personalization

Personalization is critical. A secure ID card is more than a name and a photo. It requires visual security elements to protect against tampering and forgery, including:

- Registered embedded hologram
- Holographic over-laminate
- Smart card contacts
- High-definition, lithographic and digital printing
- Over-the-edge high-definition printing
- Personalized record data and variable graphics
- Sub-surface lithographic and digital printing, and embedded anti-counterfeiting

Additionally, organizations can enhance the look of their cards by using features like Pantone spot colors and true metallic inks. Embedded high-resolution lithographic and digital printing ensure consistent color matching results. Technology cards can be quite complex, including embedded electronics, antennas and smart chip contacts that usually affect card design. The various card layers can include an over-laminate (clear or holographic), high-definition printing film, a clear PVC layer, a PET layer (containing lithographic and digital printing plus embedded anti-counterfeiting Prelam containing contactless technology such as iCLASS, Prox, Mifare and Legic).

Bringing all of these elements together into a successful badging project requires good planning.

Planning for an Effective ID Badging Project

Before embarking on a badging project with a service bureau, it is important to create a detailed plan. Successful projects depend on clearly defined objectives and an adherence to established best practices for secure, high-quality credential deployment. The following steps should be followed:

Step #1: Define ID card parameters

The service bureau's project manager or coordinator should be involved early in the ID card project. The service team can work closely with the customer and/or designated integrator to help define and achieve project objectives. While designing a visually attractive card is important, it's secondary to designing a card that helps:

- Enhance physical and logical security
- Increase efficiency and productivity
- Reduce vulnerability to counterfeiting
- Reflect the organization's brand identity

Several questions must be answered. First, how many employees, contractors and visitors does the organization have? Will separate card designs be required for each? How many different areas of the organization will interact with the cards? Will different levels of security clearance be required for each? Does the card design need to comply with any government regulations? And finally, how will the identity of each cardholder be verified and authenticated?

Step #2: Determine ID card technologies that will be included

Achieving an effective ID card involves three key elements: functionality, authentication and validation.

It is important to solicit input regarding each of these areas from as many experts as possible, including the service bureau project team, security personnel, the system integrator and graphic designers.

There are many questions to ask. For instance, will bar codes be used and, if so, what kind? The bar code type will affect the required space on the card. Barcodes can be masked to prevent copying, and it is important to allow adequate space around them to ensure trouble-free scanning. Also, if the bar code is printed on a background color, the selected color must provide sufficient contrast for reliable scanning.

If the card requires a magnetic stripe, it is important to remember that elements like these often require fixed positions on ID cards. The electronics inside technology cards create an irregular card surface, so for consistent image quality on Prox, iCLASS[®] or other HID technology cards, HID Global uses specialized High Definition Printing[™] technology to print up to and over the contact's and card's edges for a high-quality appearance. Most traditional direct-to-card printers can't print tightly around smart card contacts without risking damage to their print heads.

Step #3: Determine ID card orientation and layout

To get started, the card should be divided into a grid. Fixed elements (such as smart card contacts, magnetic stripes and visual security elements) should be placed into position first. The back and front may require different orientations for security purposes.

For maximum effectiveness, it may be necessary to explore both portrait and landscape orientations. There is no one right answer, and the selected approach depends on how the card will be displayed and used, the location of card electronics, whether the card will require a badge holder and lanyard (a great way for ensuring card longevity), and whether a protective over-laminate is needed to protect critical information that might rub off because of swipe abrasion. Many companies also use layout orientation as a quick, at-a-glance verification aid; i.e., fully functional vertical cards might be worn by full-time employees, while less functional horizontal cards might be worn by visitors and short-term contractors.

Step #4: Determine the level of required visual security

The starting point of any secure ID card design is a 300 dpi color photograph. From a design perspective, the larger and more vivid the photo, the easier it is to authenticate the cardholder. To save time and money, it is good practice to ensure all photos maintain a standard and consistent aspect ratio.

A color photo on a plain white card is simply not enough, however, to provide adequate security. Today, anyone with a computer and photo-quality printer can easily create a legitimate-looking ID

card. There are several surface and sub-surface features that can be added to a card design to create a truly secure and custom product.

One key feature to consider is anti-counterfeiting security elements. These elements are difficult to forge, yet easy to authenticate. Options range from optically variable inks (OVI) to more sophisticated solutions such as registered holograms, the use of invisible Ultra-Violet (UV) fluorescing images, and various types of customized printing approaches.

The use of OVI color-shifting inks is one of the most common anti-counterfeiting approaches. They work by reflecting various wavelengths in white light differently, depending on the angle of incidence to the surface. An unaided eye will observe this effect as a change of color when the viewing angle is changed. This anti-counterfeiting method is often used on currency and travel documents.

Adding a hologram to an ID badge is another commonly recognizable anti-counterfeiting measure. Options include surface holograms, which are applied on top of the card surface, and embedded holograms, which are applied within the card material. Surface holograms are almost impossible to reproduce without the counterfeiter making a significant investment in the specialized equipment needed to reproduce this technology. Embedded holograms are positioned under the rigid clear top surface of the card and are amenable to dye sublimation, which enables the entire card surface to be personalized.

For a more covert anti-counterfeiting mechanism, card designers can use invisible UV fluorescing images on the surface or sub-surface of the credential. Common on credit cards, currency and travel documents, fluorescing ink is popular because of its relatively easy implementation in the field. Fluorescing images can be applied at either the card surface or sub-surface level. While red, green, yellow and orange fluorescing pigments are difficult to acquire, blue/violet fluorescing inks is inexpensive and readily available.

Finally, card designers can use security-enhancing, sub-surface printing and/or surface-level over-laminate techniques. Guilloche printing uses fine-line, interlocking spot-color patterns to make complex, often multi-color background graphics that are extremely difficult to scan and reproduce. Micro-fine printing hides miniaturized text within a graphical design and is often used around the photo window to highlight any attempts to tamper with or replace an original, genuine image. Secure over-laminates add security elements while also making ID cards more resistant to everyday wear and tear.

Step #5: Select ID card graphics and type face

ID cards are more than just a security device and functional tool — they also can be an extension of an organization's image and brand and reinforce important messages. And because a well-designed card is more likely to be worn, it will go a long way toward ensuring the effectiveness of your entire card program.

There are a number of techniques for improving an ID card's effectiveness in this area. First, sub-surface lithographic printing ensures consistent color matching results. Pantone spot colors and true metallic inks can be printed with this technique. Additionally, bright colors typically work best -- dark colors can often adversely affect readability, while pastel backgrounds can look washed out. A textured background minimizes flaws in the card surface better than solid backgrounds. Contrasting colors should be considered when as a method for indicating different levels of access or security clearance.

Two other areas of personalization include the type face and choice of materials. A good type face promotes easy readability for fast and accurate authentication. The use of only one or two fonts is suggested, since too many fonts can make a card difficult to read. Additionally, clear and translucent materials can be incorporated into card manufacturing, exposing the internal card components for a progressive appearance.

Managing the Project

HID Global focuses on a number of key areas to optimize the speed and effectiveness of each customer badging project. These include:

- **Fast turnaround times.** Whether an organization needs 50,000 credentials within a month or 1,000 credentials within a week, the service provider should be able to scale accordingly, producing and delivering projects quickly and reliably anywhere around the world.
- **Web-enabled project monitoring and management.** Customers and channel partners can use a secure web portal to monitor and manage all aspects of card personalization, from design and ordering through data transmission, high-quality multi-color printing, programming and on-time delivery anywhere in the world.
- **Secure production and delivery.** Service bureaus must be able to demonstrate rigorous auditing and process controls to ensure the security of their data transfer and delivery infrastructures. This also extends to on-line web portals used to transmit sensitive project data.
- **End-to-end solutions.** Organizations must be able to rely on a service bureau for every step of the badging process, from documenting specific requirements, to card manufacturing and personalization, through final packaging and delivery.
- **Design expertise.** In addition to developing effective, counterfeit-resistant credentials, it is necessary to have a broad range of experience in developing attractive products that stand out from the rest.
- **Database management.** Companies that outsource their badging projects must have the confidence that their service provider is capable of cleaning and consolidating multiple databases, applying different rules based on specific access rights and, in general, securely processing all record databases.
- **Multiple technology options.** ID badging service bureaus also must be able to produce credentials with one or more technologies, including proximity cards, contact and contactless smart cards, magnetic stripes and bar codes.
- **Best Practices.** A detailed plan must be created for each project, to ensure mutual commitment to requirements and deliverables, as well as seamless integration within the system in which the personalized cards will be used.

- **Customized fulfillment.** Service bureaus should be able to pre-sort and deliver credentials to one location, mail them directly to multiple addresses designated by the customer, or any combination of the two.
- **Worldwide coverage.** In today's global business environment, it is important that service bureaus have production facilities around the world, enabling them to deliver credentials to facilities and employees regardless of where they are located around the globe.

Summary

Today's complex badging projects can require significant planning, resources and logistics. Offloading this work to an experienced service bureau can make a significant difference by reducing total overall costs while ensuring consistently high quality and on-time delivery performance. Now, with the advent of secure, web-enabled project management, customers can more easily manage data transfers and re-order existing formats while simplifying project status tracking and monitoring.

###