Agenda

TWIC® Program Metrics

TWIC® Next Generation (NexGen Physical Features)

Credential Modes of Operation

Canceled Card List Mobile App

TWIC® Assessments

Open Discussion
Approximately 53% of TWIC® enrollments are manually reviewed by adjudicators. A small percentage (2.6%) of total TWIC® applicants receive a Preliminary Determination of Ineligibility (PDI). Only about 1% of total applicants subject to redress process submit appeals, and less than 0.25% of total applicants receive a waiver from TSA.
TWIC® NexGen

Physical Security Enhancements

TSA plans to implement physical TWIC® NexGen updates in fiscal year 2018.

The NEXGEN effort is focused on enhanced card functionality, new physical security features, and changes to the Technology Infrastructure Modernization (TIM) system to realize a NexGen card. Where TWIC® is used often as a “flash pass” physical updates to deter counterfeiting were a priority of TSA.

- **UPDATED DESIGN**
  - Enhanced card substrates
  - Covert, overt & forensic features
  - Color-coded expiration field
  - Optically variable devices

- **ENHANCED LAMINATE**
  - Holographic images
  - Switch effect designs
  - Letter/shaped lenses
  - Tactility (numeric and graphic)

TWIC® NexGen

Transportation Worker Identification Credential

TWIC® Authentication Features
The TWIC card maintains several overt design features to promote secure use of the credential.

1. Frontal facial photograph of the card holder.
2. Credential Expiration Date: Color-coded background that will update on an annual basis.
3. Card Holder’s Full Name: Last name, first name, and abbreviated middle name (first initial followed by period) in capital letters.
4. Color Shifting Ink: TWIC text and Propeller design color shift between red, gold, and green (depending on lighting conditions) when viewed from different angles.
5. Tactility: Card Identification Number (CIN) and Anchor design embossed on the card’s laminate. (The CIN is an 8 digit number that can be validated to the CIN printed on the rear of the card, bottom left.)
6. Image Transition Effect: Compass changes to U.S. Flag design when viewed from different angles. (Laminate)
7. Letter Lenses: T, W, L, and C letters visible within circle designs using LED light source. (Laminate)
8. Kinetic images: Rope design color changes when viewed from different angles. (Laminate)
9. Image Glint/Reflection: Anchor image visible within Compass design using LED light source. (Laminate)
10. Shaped Lens/Imagery: Star designs partially covering photograph with color changes when viewed from different angles. (Laminate)

TWIC authentication guidance provided in this document does not supersede facility or vessel physical security requirements established by the U.S. Coast Guard, designated maritime authority, owner, end/or, operator. Please contact your entity’s security office for more information.

For more information on the TWIC card, please contact TSA at twic.issue@tssa.dot.gov.
**TWIC® NexGen**

**Transportation Worker Identification Credential**

**TWIC® Authentication Features**

**Card Design Front**

The TWIC card maintains several overt design features to promote secure use of the credential.

1. **Photograph:** Full frontal facial photograph of the card holder.

2. **Credential Expiration Date:** Colored-coded background that will update on annual basis.

   - 2018
   - 2019
   - 2020
   - 2021
   - 2022
   - 2023
   - 2024
   - 2025
   - 2026
   - 2027
   - 2028
   - 2029
   - 2030
   - 2031

3. **Card Holder’s Full Name:** Last name, first name, and abbreviated middle name (first initial followed by period) in capital letters.

4. **Color Shifting Ink:** TWIC text and Propeller design color shifts between red, gold, and green (dependent on lighting conditions) when viewed from different angles.

5. **Tactility:** Card Identification Number (CIN) and Anchor design embossed on the card’s laminate. (The CIN is an 8 digit number that can be validated to the CIN printed on the rear of the card.)
TWIC® NexGen

Transportation Worker Identification Credential

TWIC® Authentication Features

Laminate Card Front

6. Image Transition Effect: Compass changes to U.S. Flag design when viewed from different angles.


8. Kinetic Image: Rope design color changes when viewed from different angles.


10. Shaped Lenses/Images: Star designs partially covering photograph with color changes when viewed from different angles. (Laminate)

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For more information on the TWIC card, please contact TSA at: twic.issue@tsa.dhs.gov.
TWIC® NexGen Functionalities

**Current Functionality (2007-2017)**

- Retrieval of Fingerprint Biometrics without PIN Submission
- Designed for PIV/PIV-I Compatibility and Functionality
- Credential Designed for Maritime Application and Use
- Effective but Aging Security Features and Substrates
- Reader/Access Specifications based on Configuration of TWIC® Card

**TWIC® NexGen Functionality (Planned)**

- Secure Retrieval of Fingerprints/Facial Image without PIN
  - Permits contactless use of TWIC® for all biometric card objects.
  - Eliminates need for PIN operations (optional use).
- Independent TWIC® and PIV Applications
  - Enables continued direct mail issuance*, 5-year lifecycle.
  - Permits contactless biometric user two factor authentication.
  - Eliminates need for readers to access two (2) applications.
- Expanded PACS Support and Accessible Personal Information
  - Optional support for local PACS data, i.e., E-Stickers
  - Personal information available via 2D barcode/secure read
  - May support use of certain information across industries
- Enhanced Card Platform: Features and Personalization
  - Advanced overt, covert and forensic features.
  - Updated production methods, formatted UUID and certificates.
  - Incorporates Counterfeit Deterrence Best Practices
- TWIC® Card Backwards Compatibility
  - Minimizes disruption of existing TWIC® implementations.
  - Provides flexibility to vendors on support of new features.
  - Magnetic Stripe replaced/removed for security concerns.

*Note: TWIC® NexGen remains in development; planned capabilities and functionality subject to change.
PIV/PIV-I use of credential requires physical presence, biometric authentication and PIN selection/presentation to load/sign applications.
TWIC® Modes of Operation

Authentication & Identification

Based on the requirements of each facility/vessel and specific threat levels, TWIC® is designed to be used in various Access Control Systems at different levels of security.

01/ Static Identification
- Proximity Card Emulation
  - Contact or Contactless
  - Verify digital signature
  - Identify card using unique identifier or CHUID*

02/ Cryptographic Authentication
- 1 Factor: Something you HAVE
  - Trusted issuance by TSA
  - No biometric authentication
  - Authentication certificate and private key

03/ Biometric Identification
- 1 Factor: Something you ARE
  - Biometric Authentication
  - No card authentication
  - Digital signature protects biometric templates

04/ Combined Authentication
- 2 Factor: Something you ARE & HAVE
  - Biometric Authentication
  - Card Authentication
  - FASC-N verified against CCL

*FASC-N may be checked against the TWIC® Canceled Card List (CCL).

Note: TWIC® may have other modes of operation. This graphic details TSA’s planned TWIC® modes of operation.


If you would like to discuss technology matters with the TSA TWIC® program, please e-mail us at TWIC-TECHNOLOGY@TSA.DHS.GOV.
**Physical Security Controls**

*TSA planning to proceed with testing in Q3-FY 2018.*

Prototype is designed to illustrate a list verification and supplement visual inspection of the TWIC® card. The application is being designed for Android and iOS devices.

Solution uses the Credential Identification Number (CIN) printed on the TWIC®:

- CIN compared to one list – Canceled CINs – which may be hosted in UES website and downloaded regularly.
- Facility/vessel users will be required to inspect TWIC® expiration date for validity (not included in canceled CIN list); behavioral prompt for facial inspection.
- Application and list are available to all stakeholders – no restrictions and eliminates Registration Authority.

**Mobile Application Phases**

- **CIN Update**
  - Updates in Seconds
  - Prompt Visual Inspection

**Sample Workflow**

*Note: Application remains in development – design, graphics and interface are subject to change.*

*Source: TSA OIA/PMD, March 2018.*
TWIC® Assessments

Evaluations of TWIC® Controls, Fees & Maritime Use

Three (3) assessments on the TWIC® program’s effectiveness at enhancing security and reducing security risks to facilities and vessels.

In response to oversight recommendations and program requirements, DHS, TSA, and USCG are supporting the evaluation of the TWIC®. These assessments include analyses on:

- Fee Structure & Cost(s) of Vetting
- Use of TWIC® to address Security Risks
- Operational Impact(s) & Vetting Standards

Effective Internal Controls for TSA Security Threat Assessments (Completed – December 2017)
TSA commissioned an independent assessment of TWIC® controls to verify that STA controls exist as well as whether TSA controls effectively mitigate TWIC® security risks.

In response to P.L 114-278, DHS commissioned an independent assessment on TWIC® focused on the security value of the program and credentialing process.

Bi-annual Review of TWIC® Fee (Ongoing – Late 2018)
Based on statutory requirements and Federal guidance, TSA is conducting its bi-annual review of the TWIC® fees.

Discussion

Questions?
Contact Information

Please do not hesitate to contact the TSA TWIC® program with questions or for more information.

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