



Customer Research and Red Team Test Report for Intellicheck



Customer Research and Red Team Test Report Prepared for Intellicheck



Abstract

Greenway Solutions was hired by Intellicheck to interview a group of customers to understand how they use its Doc V solution and to gather their opinions on deployment, effectiveness, and future enhancements. Greenway Solutions also had its Fraud Red Team test the product against 20 fake driver's licenses to assess the tool's usability and effectiveness. The results of these activities are contained in this report. In summary, the product is deployed for multiple use cases across the digital, branch/affiliate, and call center channels. Intellicheck clients have an affinity for the product's ease of deployment and detection effectiveness, and our Red Team testing confirmed claims about the products usability and ability to spot fake DLs.



Intellicheck



Intellicheck is, "an identity validation company that detects fake IDs 99.9% of the time". Greenway groups Intellicheck into the document validation (i.e., "Doc V") category of vendors who specialize in validating real documents and detecting fakes.



There are two parts to this Research Report:

Part I – Intellicheck Customer Research

Greenway conducted interviews with five Intellicheck customers that span a broad spectrum of businesses with Doc V needs. The group included a global web services company, a top 10 credit card company, a top 10 charge card company, a sub-prime consumer specialty-finance company, and top 10 retail bank.

In conducting our research, our team gathered answers to the following questions:

1. How and where does the Intellicheck product fit into their Identify Verification process?
2. What makes Intellicheck unique in the Doc V product category?
3. What use cases have been deployed for each customer and what lessons can be drawn from their deployment?
4. What are your impressions around Intellicheck product effectiveness and product support?
5. What would you like to see in the Intellicheck product roadmap?

Part II – Intellicheck Red Team Test and Evaluation

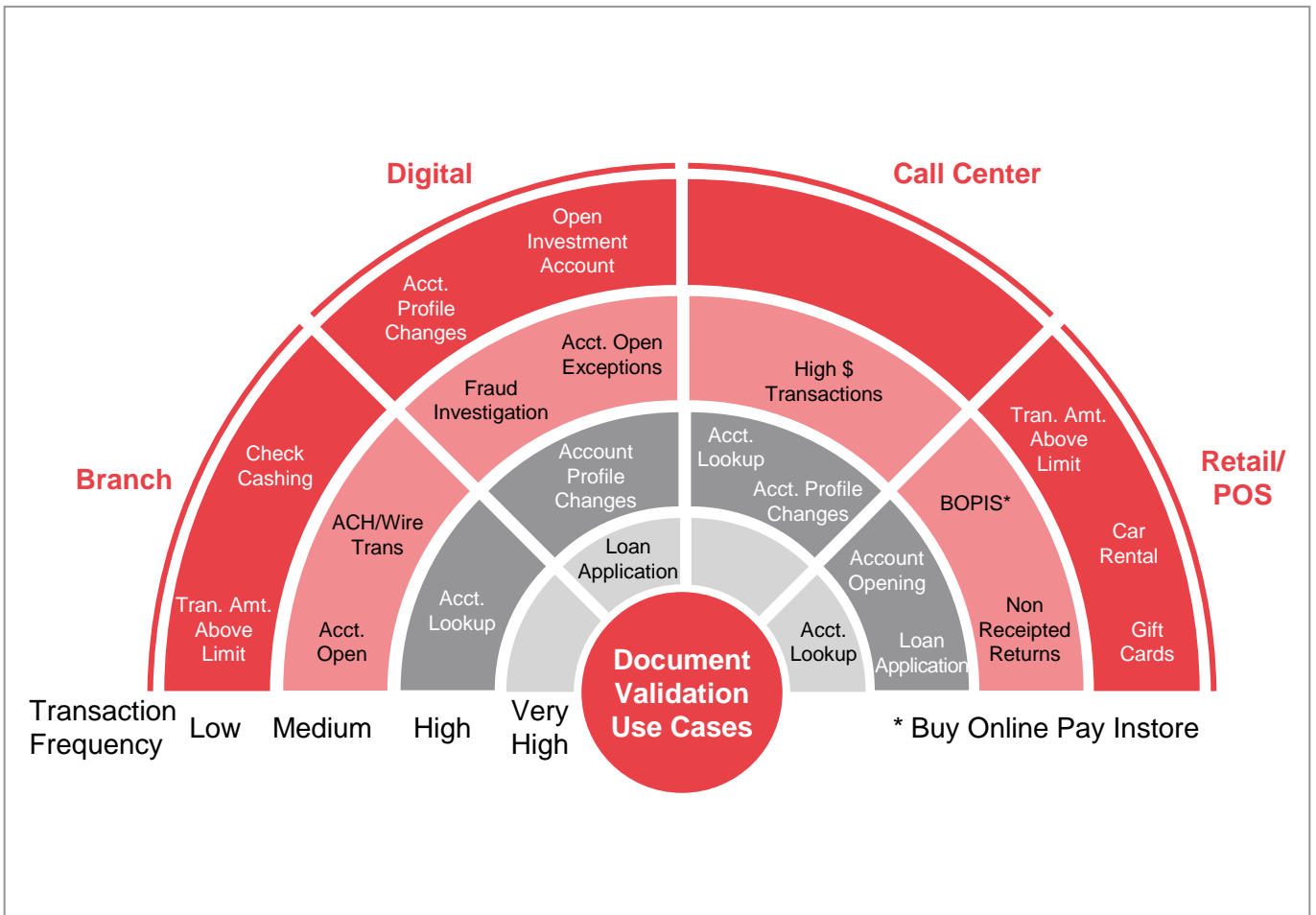
Greenway Solutions also had the opportunity to conduct a red team test against Intellicheck's document scanning product using a batch of 20 fake driver's licenses procured by our Fraud Red Team. The Driver's Licenses were procured and sourced without any Intellicheck participation or influence.

Question 1: How and where does the Intellicheck product fit into your Identify Verification process?

Doc V plays an important role in IDV across the customer life cycle including new account opening, digital enrollment, step-up authentication, account maintenance, and money movement.

Document validation comes in several flavors including bar code scanning, document matching, selfie check, and DMV checks. The basics of Doc V are to validate if the document is real, match the person on the ID to the person presenting it, conduct risk scoring on the data in the document, and provide analytics on the documents that have been scanned.

The chart below provides an overview of the channels, use cases and transaction frequency associated with Doc V usage.



Collectively, the customers we interviewed validated that Intellicheck's Doc V solution supports these capabilities and in doing so has helped enable multiple uses cases across multiple channels while lowering the incidence of fraud related to identity theft.

Question 1: How and where does the Intellicheck product fit into your Identify Verification process?



For new applications, document validation is used at the top of the funnel, in the middle of the funnel (usually for application exceptions), and at the end of the funnel for certain approved applications.

Top of Funnel Applications

Doc V is often leveraged at the top of the funnel and has multiple use cases across channels. Examples include:

- Retail / POS - applying for a Store's credit card at a POS counter to get an X% discount. Doc V is used to scan the customer DL to validate its authenticity and to prefill the application which is scored and decided in real-time.
- Digital – for online account opening, Doc V can be used to pre-fill the application and/or it can be used as validation step before incurring the expense of contacting the credit bureau and other data sources for subsequent identity verification.

Mid Funnel Applications

Doc V is also used in the middle of the new application flow for higher risk applications. For example, when a phone number check returns a mismatch with the applicant's name, or when an email address on a new application is determined to be brand new, the merchant may require a Doc V check to mitigate the risk of the applicant supplying contact information with little tenure and reputation.

Lower Funnel Applications

For some companies, placing Doc V at the end of the funnel has a lower abandonment rate than placing it at the top due to the customer's time investment in the application process and the knowledge that they have been approved for what they were applying for.

Other common use cases include account lookup at a Retail Store (i.e., "I don't have my store credit card with me"), password reset in a Call Center, on-us check cashing at a branch where a customer does not his/her debit card, on-us check cashing at a branch for people who are not bank customers, high dollar transaction requests across multiple channels, ACH/Wire transactions in the branch, and buying merchandise online and picking it up at the store (BOPIS).



The following chart identifies how Doc V fits into a layered Identity Verification control environment.

IDV Checks	Definition
Document Validation	Validate the authenticity of a government issued identity document (DL, State ID, PP)
Application Prefill	Use data from the validated document to prefill the application
Name, SSN, DOB Verification	Verify a potential customers name, DOB and SSN against a trusted data source
Address Verification	Verify an individual's address matches historical records
PH# Verification	Establish if a number is in service and belongs to the individual
Device Risk Scoring	Assess the risk of user's device (e.g., neg. list, geo-locations) and likelihood of fraud
Govt. ID Number Verification	Confirm an individual's identity against a govt. issued ID number (e.g., SSN, TID, DL#)
DOB Verification	Verify DOB against a validated, authentic, document (e.g., DL)
Liveness and Spoofing Detection	Determine if a photo is live and accurately matches a photo on a validated document
Negative List / OFAC check	Verify if the individual is on an internal negative list or an OFAC list

Intellicheck capability

Question 2: What makes Intellicheck unique in the Doc V product category?

According to Intellicheck, fake driver's licenses are created using front of ID templates and AAMVA barcode standards that are publicly available. What is not public knowledge is that no DMV only uses the AAMVA standard when creating their IDs. Every DMV takes the AAMVA standard and adds unique hidden security features and special encoding to protect against counterfeit attempts. No State uses the exact same format so there are over 250 unique formats currently in circulation between the US and Canada.

Intellicheck's software identifies the hidden security features of every North American driver license, state issued ID, and Military ID. As such, by doing a simple bar code scan, they can determine if the DL is fake or real, no selfie required. By adding the selfie, they can determine if the person presenting the license matches the license, and by adding third party checks, they can determine if the person is on a sanctions list or internal hot list.

The figure below shows the Intellicheck results of a scanning a valid DL (green) and a fake DL (red) using the Intellicheck mobile app.

Real

OK

INFORMATION FROM ID CARD

Gerz
2400
Charl
10/24
Male
Issuing
DL ID #

LICENSE

EXPIRATION: 10/24
REISSUED: Yes
ISSUED DATE: 02/21
TYPE: No Inf
CATEGORY: DL
REAL ID: Yes

Fake

Alert

INFORMATION FROM ID CARD

Jobee Mckeever
3338 W Friendly Ave
Greensboro, NC 27410-4865
02/26/1997
Female
Issuing State: North Carolina
DL ID #: *****9285

LICENSE

EXPIRATION: 02/26/2024
REISSUED: No Info
ISSUED DATE: No Info
TYPE: No Info
CATEGORY: No Info
REAL ID: No Info

11:06
intellicheck™
Verify
ID
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Question 3: What use cases have been deployed and what are lessons learned from deployment?



Customers interviewed have deployed Intellicheck to support account opening processes and other high-risk procedures including money movement and account servicing. They have deployed it across multiple customer contact channels including mobile, web, call center, retail POS, and branch banking. The chart below provides an overview.

Customer	Use Cases	Contact Channels
Global Web Services Company	Account Unlock and Password Reset	<ul style="list-style-type: none"> • Call Center Agents • Text Chat Agents
Top Ten Credit Card Company	<ul style="list-style-type: none"> • New Account Opening • High Risk Transactions – Step up 	<ul style="list-style-type: none"> • Mobile and Web • Call Center Agents • Bank Branch
Top Ten Charge Card Company	<ul style="list-style-type: none"> • New Account Opening • New Customers flagged for Account Takeover (ATO) Risk 	Call Center Agents
Subprime Consumer Specialty Finance Company	<ul style="list-style-type: none"> • New Loan Application • KYC and Verifying Applicant PII 	Mobile and Web
Top Ten Bank	<ul style="list-style-type: none"> • ACH Transfer Requests • Check Cashing (when Debit Card / PIN not avail) 	<ul style="list-style-type: none"> • Mobile and Web • Call Center Agents • Bank Branch
Retailer	In-Store co-branded credit card lookup and charging	In-store at POS Terminal



Customer interviews uncovered a number of common themes on their respective Intellicheck deployments:

- 1. Primary business drivers in each deployment include improving the customer experience, reducing customer friction, and decreasing customer abandonment.**
 - Reducing and controlling fraud is a goal but it is secondary to customer experience and business growth goals. Examples included:
 - Using Doc V at POS Terminals to offer Store Credit Cards for X% off the first purchase. Doc V validates the DL, prefills the application which is then scored and decided
 - Using Doc V for opening Deposit accounts in the Mobile Channel increases the approval conversion rate
 - Each customer shared the view that Doc V solutions are a key Identity Verification capability needed to enable the business and control risk at acceptable levels.
 - Quote: *"Intellicheck will help you mitigate your IDV risk so you can take on more risk to grow your business."*

Question 3: What use cases have been deployed and what are lessons learned from deployment?



Customer interviews uncovered a number of common themes on their respective Intellicheck deployments:

2. Customers deployed Intellicheck as part of a multi-layer IDV strategy.

- Most customers have defined a progression of step-up controls that may precede reliance on a Doc V check. This can include contact verification, successful OTP, or entry of Debit Card # and PIN.
- Fall back controls may also follow a Doc V check – in some cases a Branch visit, or the use of an alternative document such as Passport, or the use of notarized documents.
- Quote: *“DL checks are not intended for everyone, just the exceptions - there is cost element.”*

3. Customers emphasized their use of API integration and Intellicheck data to inform their decision making.

- Various data elements are used to drive internal risk rules.
- Customers cited less interest and use of the selfie process in the primary experience flow (i.e., why introduce additional friction if the DL is valid)
- Quote: *“Intellicheck delivers 140 data points, we will limit our use to the 10-15 elements that matter.”*

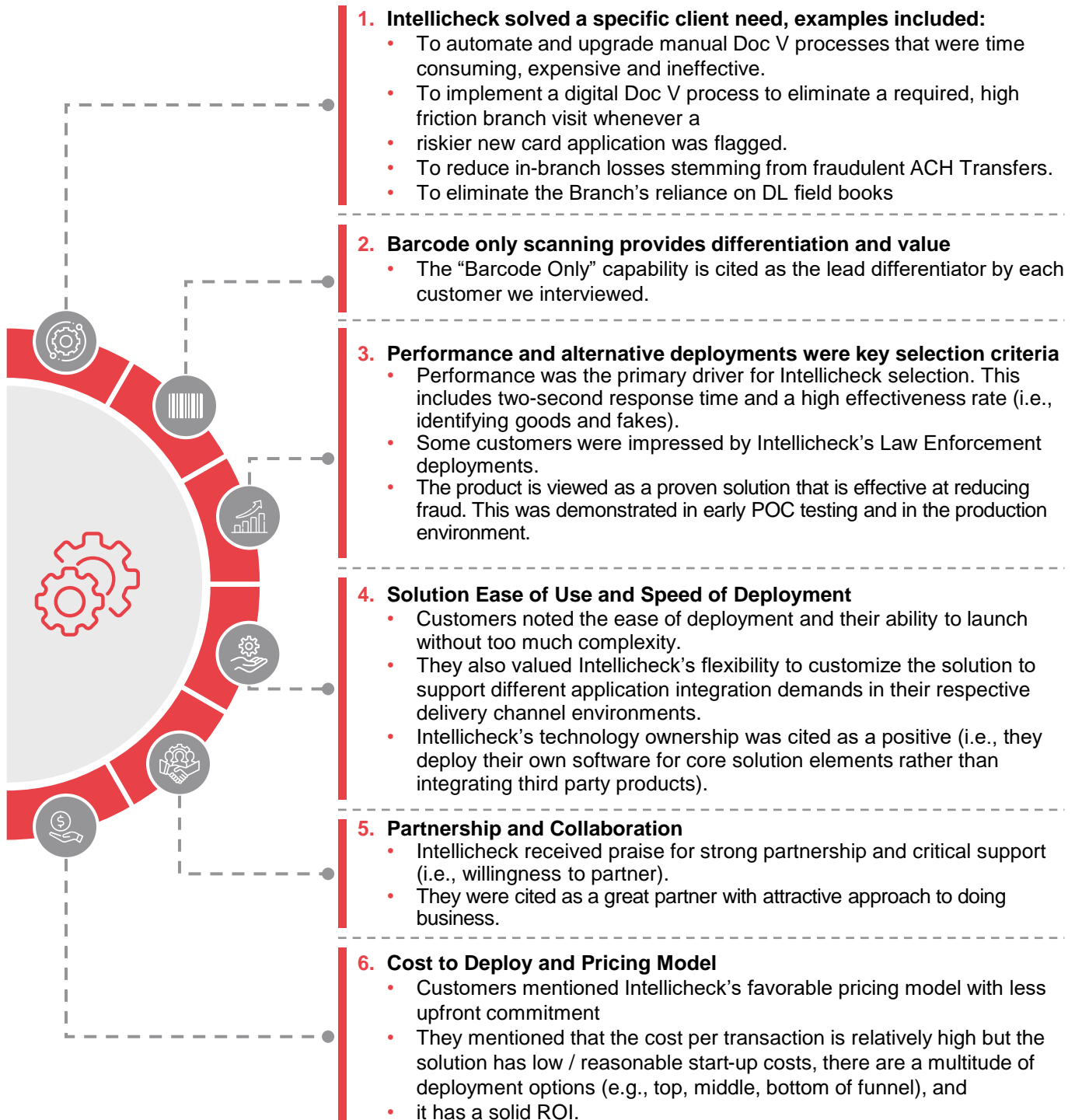
4. Customers noted the impact of the IDV check on fraudster perception and behavior.

- The presence of the IDV check can impact fraudster decision to continue the new application flow.
- Fraudsters often abandon the process when presented with a Doc V step up requirement.
- Quote: *“Abandonment rate is a better indicator of potential fraud than decline rate.”*

5. Customers emphasized that fraudsters remain vigilant and will continuously test your process looking for workarounds.

- Fraudsters are always gaming the process - it is common for fraudsters to claim “technical difficulties” with the DL scan and selfie process in search of a work around or alternative step-up options.
- Quote: *“Fraud patterns shifted when Doc V was deployed for ACH - Wire transfer losses in the Branch have grown without the same Doc V control capability.”*
- Quote: *“Anytime we change our application flow, the fraudsters come back in and tested it. They are very persistent, knowledgeable and patient.”*

Question 4: What are your impressions around Intellicheck's product effectiveness and support?



Question 5: What would customers like to see on the product roadmap?



Customers cited several opportunities for enhancing Intellicheck's capabilities and performance. Key topics for roadmap consideration included the following:



1. Continuously test and guard against current and emerging threats.

- Customers cited a few examples of fakes being missed that on visual inspection were identified as fake (e.g., photo shopped driver image). Intellicheck partnership is critical to guard against “easy misses” and to ensure that clients are deploying the solution to its full potential.
- Customers noted they expect Intellicheck to ensure that that their product is tested against the latest fake DLs for all 50 states (i.e., protect against vulnerability to fraudster exploits and black market fakes).
- Customers cited vulnerability to DMV Duplicate Card self-service order processes (i.e., State DMVs that allow people to order a duplicate ID online). What States have experience this type of breach and for those States, should a Selfie-check be required?



2. Enhance the Intellicheck customer experience to reduce complexity.

- Continue to reduce screen count in core customer experience flows.
- Improve Reliability of App Camera Access and resolve Camera overlay and freeze issues.
- Ensure Intellicheck manages the selection of the correct camera on the latest iPhone versions.



3. Explore Using Intellicheck data to add more value and risk insight.

- Expand customer insight on flagged fraud and failures (e.g., why was a “Alert” decision made and can a reason code be shared?).
- Quote: “Intellicheck declined the DL – they don’t tell us why they declined it, just that it is a “no”.
- Explore the opportunity to add value with risk scoring tied to Intellicheck data.
- Quote: “Intellicheck should evaluate being more involved in the data side of the process (e.g., resolving DL Name / Application Name discrepancies using fuzzy logic.”



4. Strengthen Intellicheck performance reporting which is important for clients without full API integration.

- Increase Archive History for Scan Results available through the Intellicheck reporting portal.
- Improve analysis capabilities and strengthen data definition standards to ensure consistency across reports over time.



5. Strengthen Driver's License Monitoring and Insight Services

- Capabilities cited by customers include the following enhancements.
- Velocity Checking – automatically monitor and flag repeated display of the same driver's licenses or photos seen repeatedly by the Intellicheck system.
 - Photo Blocking – ability to tag or block known fraudster or bad actor photos that appear multiple times in the application flow.
 - Driver's License Blocking – ability to tag or block known fraudster DLs. An example was cited of an ex- convict on parole with high quality fakes appearing on applications.

Part 2 – Intellicheck Red Team Test & Evaluation



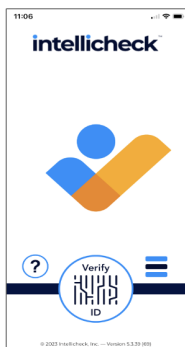
Drivers License Test Summary:

- Greenway Solutions procured 20 Drivers Licenses spanning 11 different states through its Fraud Red Team Testing Service.
- Nearly all of the Drivers License fakes tested can be considered high quality and would successfully pass multiple physical tests including eye, bend, authenticity, and UV light.
- Quality was sufficient that if any of these Drivers Licenses were presented to most front-line employees, they would be impossible to spot as fake without digital support.
- Most Bar Codes have embedded text that matches to data on the front of the Drivers licenses, a few have bar code / text mismatches.
- Multiple vintages of CA Licenses from multiple providers were included in the test.



Drivers License Test Execution:

- Each of the 20 Drivers Licenses was scanned using the Intellicheck App.
- For our test, the scan was limited to bar code scanning only.
- No selfies or DLDV checks were required - although Intellicheck has those product capabilities.



Fraud Red Team Test Results:

Doc Validation Method	Accuracy	Fail Rate
Intellicheck (bar code scan only)	20 of 20	0%
Alternative Doc V Solution (required scanning front and back of DL)	19 of 20	5%
AAMVA Check (does bar code data matched data on the front of the DL?)	8 of 20	60%
Human Review (eye and bend test)	6 of 20	70%
Blue Light Test	1 of 20	95%

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
FAKE DL TESTING									Tested in Pittsburgh on 6/13/2023					Did not Test Selfie, DLDV, or DMV Image		
Tier	State	Vendor	Face on ID	Name	ADDR	DOB	DL#	Exp. Date	"Eye Ball Test"	Blue Light Test	AMMVA Check	Lexis Check	Intellicheck	Selfie Check	DLDV Check *	DMV Pic / Selfie Check
4	CA	ID God	Carlita Jimenez (R)	Carlita Jimenez (R)		F	*121 (F)	11/11/2022	Excellent	Pass	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	CA		Carlita Jimenez (R)	Amber Kelly Carter (F)	R	R	*212 (F)	5/13/2022	Excellent	Pass	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	CA		Carlita Jimenez (R)	Amber Kelly Carter (F)	F	F	*030 (F)	5/12/2023	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	GA	ID God	Eric Fitz (R)	Eric Fitz (R)	F	F	*323 (F)	10/15/2024	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	GA		Eric Fitz (R)	Nicholas James Kelly (F)	F	F	*323 (F)	4/9/2024	Excellent	Pass	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	GA		Eric Fitz (R)	Nicholas James Kelly (F)	F	F	*713 (F)	4/9/2026	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	NC	ID God	Russell LeClair (R)	Russell LeClair	R	F	*962 (F)	5/21/2023	Excellent	Pass	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	NC	DW	Russell LeClair (R)	Harold Gunter (F)	F	F	*295 (F)	12/26/2027	Excellent	Pass	Fail ²	Fail	Fail	Pass	Fail	Fail
3	NC		Russell LeClair (R)	Jefferey James Elliot	R	R	*548 (F)	10/25/2026	Excellent	Pass	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	NJ	ID God	Harry Warner (R)	Harry Warner (R)	R	F	*976 (F)	6/30/2022	Okay	Fail *	Fail ¹	Fail	Fail	Pass	Fail	Fail
4	NY	ID God	Ben Tylman (R)	Miles Cooper (F)	F	F	*843 (F)	3/19/2026	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	NY		Ben Tylman(R)	Miles Cooper (F)	F	F	*446 (F)	5/17/2028	Excellent	Pass	Fail ³	Fail	Fail	Pass	Fail	Fail
4	SC	ID Viking	Russell LeClair (R)	Russell Mathew LeClair (R)	F	F	*590 (F)	5/21/2025	Poor	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	TX	ID God	Reed Murphy (R)	Reed Murphy (R)	F	F	*212 (F)	9/8/2023	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	TX		Russell LeClair (R)	Vincent Roman Chase (F)	F	F	*121 (F)	7/1/2026	Okay	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	TX		Russell LeClair (R)	Vincent Roman Chase (F)	F	F	*573 (F)	7/1/2025	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	WA	ID God	Laszlo Henning (R)	Laszlo Henning (R)	F	F	*017 (F)	6/22/2023	Okay	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	FL	ID God	Russell LeClair	Vincent Matthew Chase	F	F	*142 (F)	4/22/2025	Okay	Pass	Pass	Fail	Fail	Pass	Fail	Fail
4	AZ	ID God	Carlita Jimenez (F)	Nicole Sarah Kane (R)	F	F	*444 (F)	3/17/2026	Excellent	Pass	Pass	Pass ⁴	Fail	Pass	Fail	Fail
3	AZ	ID God	Russell LeClair (F)	Joseph Wolf (R)	R	R	*981 (F)	7/21/2028	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail
3	MD	ID God	Russell LeClair (R)	Michael LeClair (F)	R	R	*592 (F)	7/28/2028	Excellent	Pass	Pass	Fail	Fail	Pass	Fail	Fail

* Not sure if NJ has hidden UV images on DL
¹AAMVA Check - the State that popped was CT
²AAMVA Check - the State that popped was PA
³AAMVA Check - no data was returned from scan
⁴this was an AZ license. Branch Mgr said the only license flagged to date in the Branch was AZ (i.e., in first 60 days)
⁵DLDV returns a True/False indicator for each attribute submitted: FN, LN, St, City, St, Zip, Issue/Exp Date, Eye Color, H, W, G

Test Conclusions:



1. Doc V solutions are superior to non-Doc V methods (e.g., eye, bend, blue light)



2. The Driver's License is a valuable authentication token.

- DL serves as, “something you have” in a multi-factor approach.
 - Other authentication methods include something you know (e.g., a PIN code), and something you are (e.g., a biometric).
- DL plays an important role across multiple channels and use cases
 - Branch – Teller Check Cashing, New Account Opening, Account Closure, ACH and Wire Transfers
 - Digital – New Account, High Risk Transactions
 - Call Center – High Risk Transaction (e.g., CSR sends a text link to customer, customer scans license in real-time)



3. Human Error can threaten the best solution.

- When a solution detects a fake, a customer may cause a scene, sometimes prompting the Bank to decide the scan result is a false positive (e.g., a new DL format that the software has not seen before).
- In this situation, using a backup solution might be an effective way of managing the situation (i.e., one decline creates doubt, two declines provides certainty)



4. Driver's License threats and capabilities will continue to evolve creating residual risk.

- Good DL fakes are being used for the takeover (ATO) of existing accounts
- Good DL fakes can be manufactured at scale at a relatively low cost. The demand no longer comes from people under a State's legal drinking age, but rather from organized criminals looking to scale Identity Theft.
- Next Generation Fakes may reverse engineer the bar code.
- Digital Driver's Licenses might not have a bar code to scan.
 - Arizona has a DDL option today (note: it contains a bar code on the back side)
 - What is the timing for rollout for other States, what are the security mechanisms?
- Insider Threat at the DMV envisions rouge insiders manufacturing real licenses for financial gain
- Online DL renewal systems can be hacked and threat actors can obtain 100% legitimate DL's



5. Recommended Actions for Deployment:

- **Consider a multi-modal, multi-vendor solution for the Branch**
 - Layered solutions create higher assurance for the Branch Manager who has to make a real-time call in front of other customers.
 - Layered solutions create redundancy in case the primary solution is out or has been tampered with

About Greenway Solutions



Greenway Solutions is a fraud prevention services firm that has been in business since 2004. Our clients include national banks, regional banks, credit unions, and fin-techs in the U.S., U.K, and Canada. We provide our clients with fraud strategy consulting, fraud control assessments, red team testing, implementation services, and data analytics. The breadth of our consulting and testing spans the customer life cycle including new client acquisition, identity verification, authentication, account maintenance and all forms of money movement. It also covers customer access channels including mobile, web, call center, IVR, ATM, branch, third parties.

Given our service offerings, staff expertise, and industry network, from time to time we are asked by financial institutions and product vendors to provide customer research. This generally includes talking to client stakeholders and if possible, using our Fraud Red Team testing service to test and evaluate what we have read and learned during the interview process (i.e., trust but verify). During September and October 2023, we conducted customer research and red team testing for **Intelligencecheck**, a provider of documentation validation services.

To learn more about Greenway, visit us at www.greenway-solutions.com