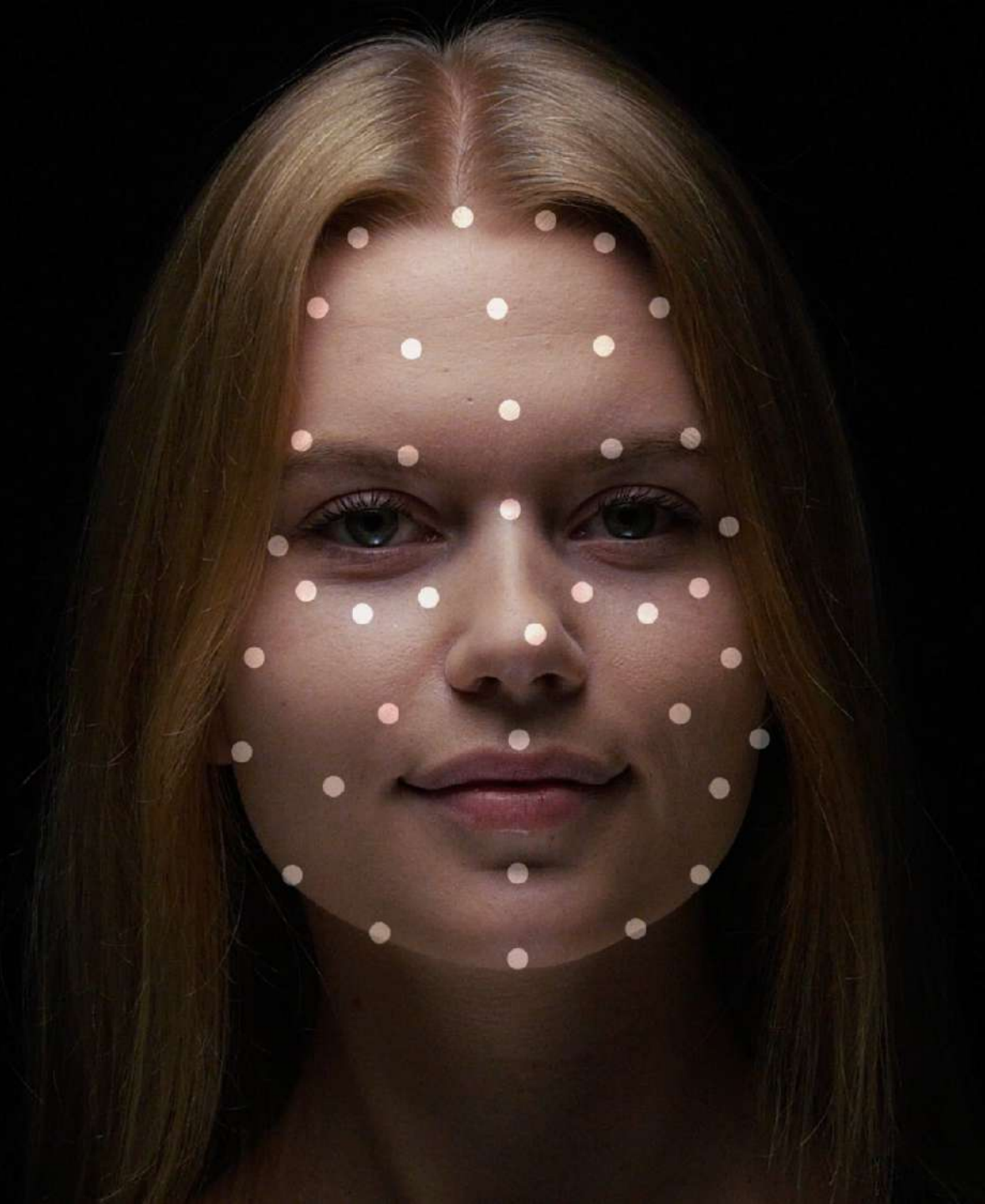


# Passwordless is just the beginning. The future is Keyless

Adopt zero-trust authentication to protect your remote workforce and enable strong customer authentication with just a look.

KEYLESS



# your workforce shouldn't compromise



## Let's face it, we all hate passwords!

**\$ 70**

average cost for each  
password reset

(Forrester Research)

**81%**

of hacking related breaches  
used weak or stolen passwords

(Verizon Data Breach Report 2017)

**\$ 4M**

average total cost of a data  
breach

(Ponemon Data Breach Report 2019)

**24h**

average employee spends 24  
hours per year just on logins

(Verizon Data Breach Report 2019)



Shared secrets



Password reuse



Lost/stolen tokens



Keyloggers



Phishing



Credential stuffing



# the world is going passwordless

51%

of passwords are reused  
across services  
(University of Oxford)

\$5bn

Facebook fine for years of  
privacy violation  
(Reuters)

2.3bn

credentials stolen  
in 2017 alone  
(Shape Security)

Simplicity

vs.

Privacy

vs.

Security



By 2022, Gartner predicts that 60% of large and global enterprises, and 90% of midsize enterprises, will implement passwordless methods



# passwords are of the past



## Passwords Provide Poor User Experiences

The average enterprise uses 1,400 different cloud services. ([SkyHigh Networks](#))

The average business user must log in with as many as 190 passwords. ([Security Magazine](#))



## Passwords Are Easily Compromised

Passwords that are easily detectable or reused often are vulnerable to phishing attacks.

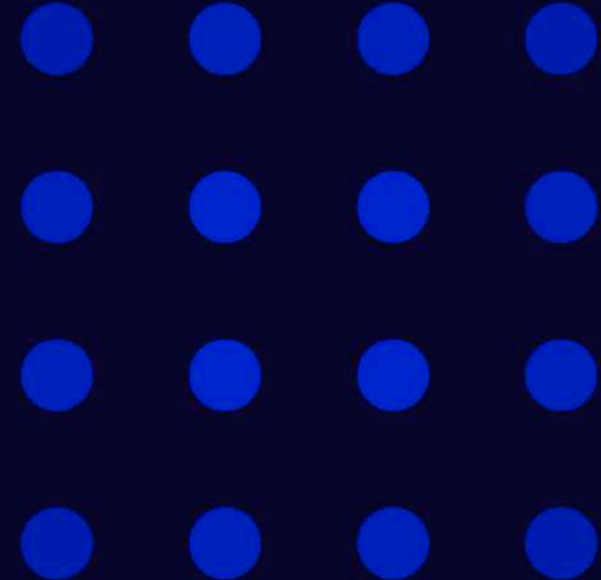
Over 80% of hacking breaches involve brute force or the use of lost or stolen credentials. ([Verizon DBIR](#))



## Passwords Are Costly and Burdensome to Manage

20-50% of all IT help desk tickets each year are for password resets. ([Security Boulevard](#))

Each year, U.S.-based enterprises allocate over \$1 million to password-related support costs. ([Forrester](#))



**And many more reasons...**



# increasing security demands

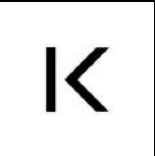
## Strategic trends in new normal

- 1 Unlimited number of devices
- 2 Transition to the cloud
- 3 Diverse end-user requirements
- 4 Digital transformation
- 5 Business resilience



## Protect your workforce with ease

- ✓ Enroll once, use on any device
- ✓ One solution, any cloud or on-prem
- ✓ Identification with built-in MFA
- ✓ Easy to deploy, simple to manage
- ✓ Effective, secure and scalable



# unique capabilities powered by unique technology



## Software Based - Hardware Agnostic

Keyless does not rely on the device hardware or sensors, and can thus be deployed on a large set of devices and appliances

No reliance on Face ID or other 3<sup>rd</sup> party tech



## Authenticate Users - Not Devices

Keyless identifies users across every touchpoint, so you can make sure that the user who is logging in is actually the correct user

Unique identity for every user



## Enroll Once - Use everywhere

Users enroll once in a 5-second process and can use it across all devices and touchpoints and enable seamless recovery

Multi-device support and simple recovery



## No Biometrics/PII Stored Anywhere

Keyless exceeds strictest privacy compliance requirements since no PII/biometric data is stored anywhere

Exceeds privacy compliance beyond GDPR



# unique technology

- 1 Capture biometrics
- 2 Split into shares and encrypt
- 3 Send to multiple independent servers and match encrypted shares against encrypted patterns
- 4 Recombine secret for one-time use



Locally on user's device

Nothing to remember

Enroll once, use everywhere, any platform, any device

Distributed on Keyless network

Nothing to steal

No central honeypot, no data on user devices

Locally on user's device

User in control

Fundamental privacy preserving technology



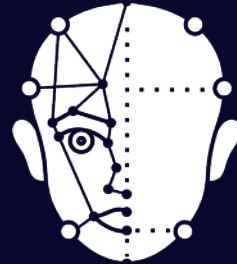
# multi-factor by design

User-friendly visible protection

Invisible protection



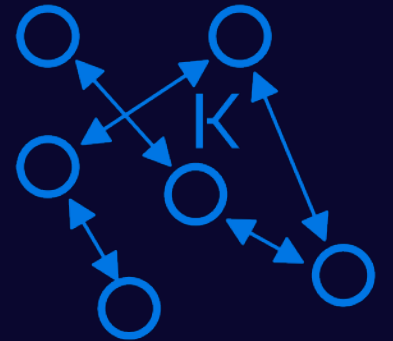
+



+



+



Privacy-preserving  
device recognition (ZKP)

Zero-knowledge, AI-driven  
physical and behavioral biometrics

Distributed private  
computation (sMPC, SSS)

Use anywhere from any  
device and any channel

Continuous and dynamic  
multi-factor authentication

AI-driven state-of-the-art  
anti-spoofing

Factor agnostic, multiple  
biometrics; private by design



# Passwordless MFA done right

Keep your business ahead of ever-changing security threats and adopt zero-trust authentication to protect your workforce while enhancing employee experiences.

## ➡ Nothing to remember

Enjoy a frictionless user experience and reduce operational costs with user-friendly biometrics

### Enroll once, use everywhere

- Unify the experience across devices
- Increase productivity
- Reduce friction and MFA fatigue

## 🔒 Nothing to steal

Reduce password-based attacks and risks of data breaches thanks to Keyless zero-knowledge architecture

### Authenticate people, not devices

- Eliminates fraud, phishing and credential reuse
- Reduce the risk of data breaches
- Enable MFA by design

## ✓ Privacy compliant

Exceed strict compliance requirements under GDPR without the need to store PII/biometric data anywhere

### Private by design, no PII/biometrics involved

- Reduce your compliance burden
- Build trust with your employees
- Reduce the risk of fines

## ! Easy to deploy

Complement your existing IT infrastructure seamlessly by leveraging pre-built standard integrations to all major IAMs

### Easy to deploy, set up and run

- Deploy on-premise, in the cloud or in hybrid setting
- No vendor lock-in, provision across devices
- Enable BYOD policies



# Keyless Authenticator

One authenticator for many use cases



## Passwordless SSO

Keyless integrates with your existing IdP to enable passwordless MFA for your enterprise apps in minutes.



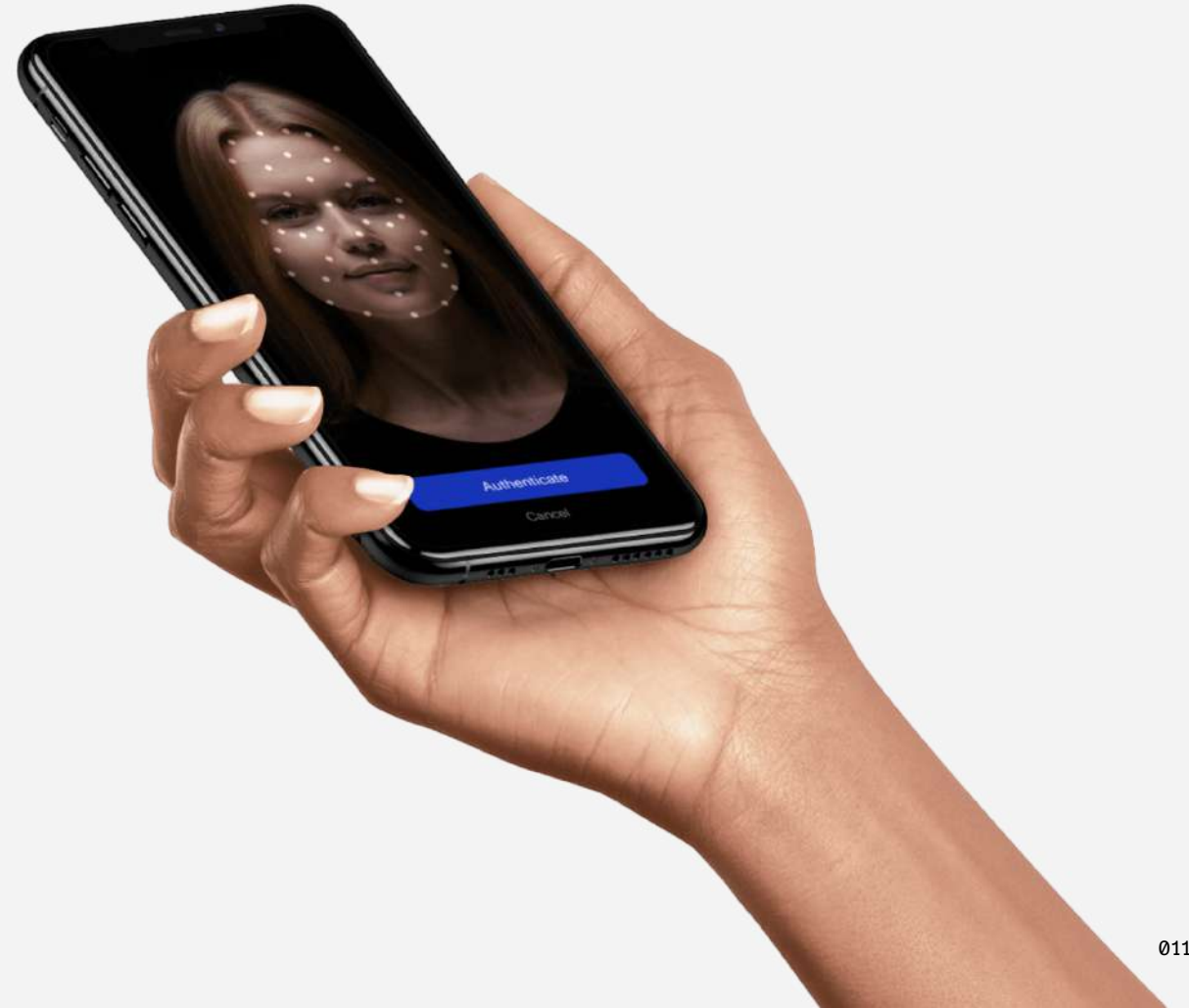
## Desktop MFA

Keyless eliminates passwords from your Windows 7,8 and 10 login experience and offers built-in MFA with one look.



## Remote Login

Keyless enables your workforce to securely authenticate to your VPNs - on any device, from any location.



Secure access to your internal applications

# Passwordless SSO

Keyless integrates with your existing identity provider to enable passwordless MFA for your enterprise apps and SSO in minutes



Go full passwordless of add Keyless as a second and third factor



Keyless plugs into your existing IAM using standard protocols or native plugins

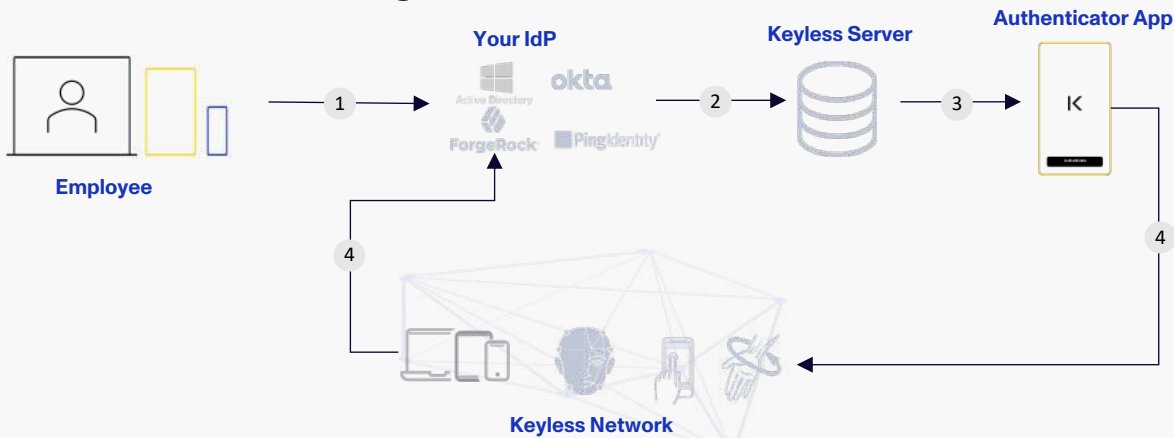


Ensure only the right people have access to the right resources and apps



Apply behavioral biometrics to remove user friction while enhancing security

## Passwordless SSO login

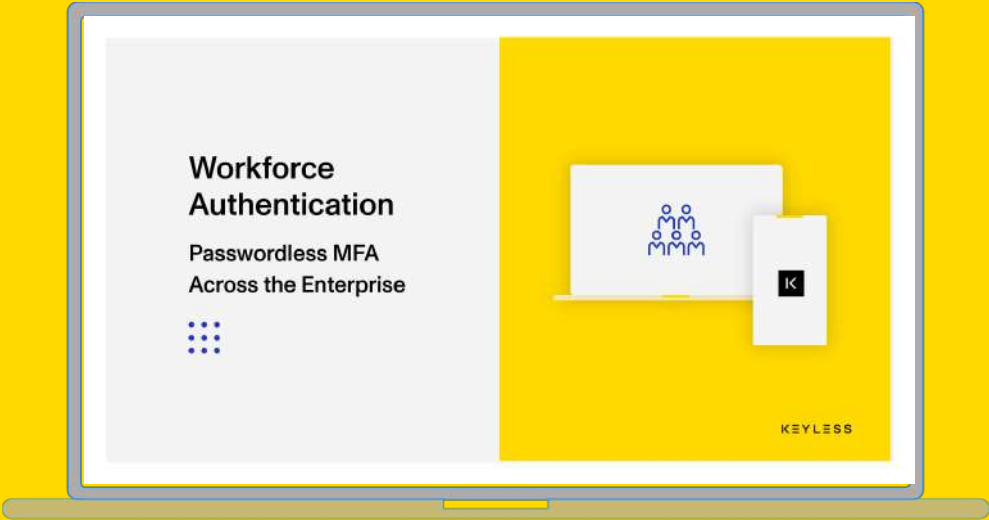


KEYLESS

Integrate with your existing single-sign on provider:



- ✓ Reduced IT time & costs
- ✓ Rapid time-to-value
- ✓ Better user experience
- ✓ Strong security posture



“Over 80% of hacking breaches involve brute force or the use of lost or stolen credentials. (Verizon DBIR)”

Secure access to your Windows workstations

# Desktop MFA

Eliminate passwords from your Windows 7,8 and 10 login experience and improve security with just a look



Authenticate through any mobile device or directly from your Windows workstation



Offline MFA for cases where internet connectivity is not available

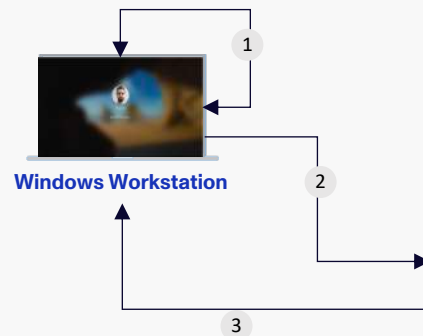


No reliance on third party biometrics vendors

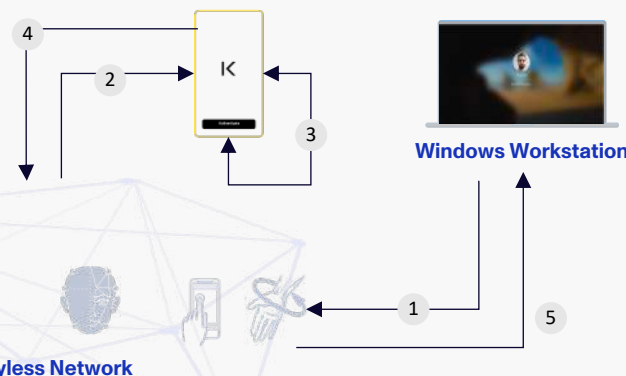


Users enrolls once – and can then use to access all associated workstations

## Passwordless Workstation Login (via workstation)



## Passwordless Workstation Login (via mobile phone)



KEYLESS



Reduced IT time & costs  
No lost passwords, no Windows passwords resets



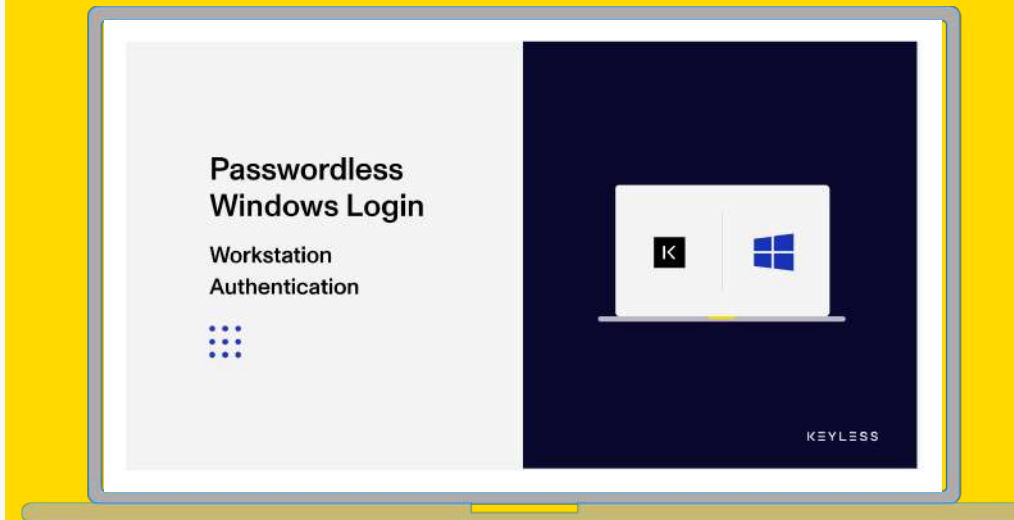
Rapid time-to-value  
Quick integration with your AD infrastructure



Better user experience  
Desktop, laptop and tablet compatible



Strong security posture  
In any location, on any device



An employee wastes an average of 24 hours/year on password-based workstation logins.

Secure access to your virtual private networks

# VPN Access

Keyless enables your employees to securely authenticate to your virtual private networks - on any device, from any location



RADIUS  
integrations with  
leading VPN clients



SAML/OIDC  
connectors to your  
preferred identity  
provider

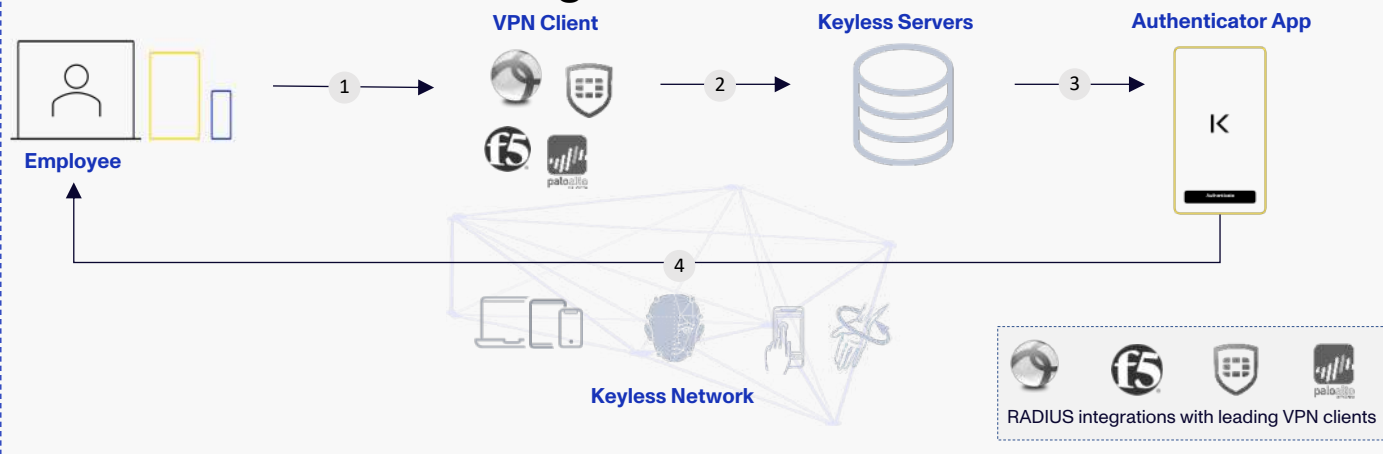


Step-by-step  
documentation and  
best practices for IT  
admins and end users



Seamless on any user  
device, OS or  
hardware; unifying the  
UX for all employees

## Passwordless RADIUS login



KEYLESS



Reduced IT time & costs  
No need to deal with password  
resets and lost credentials



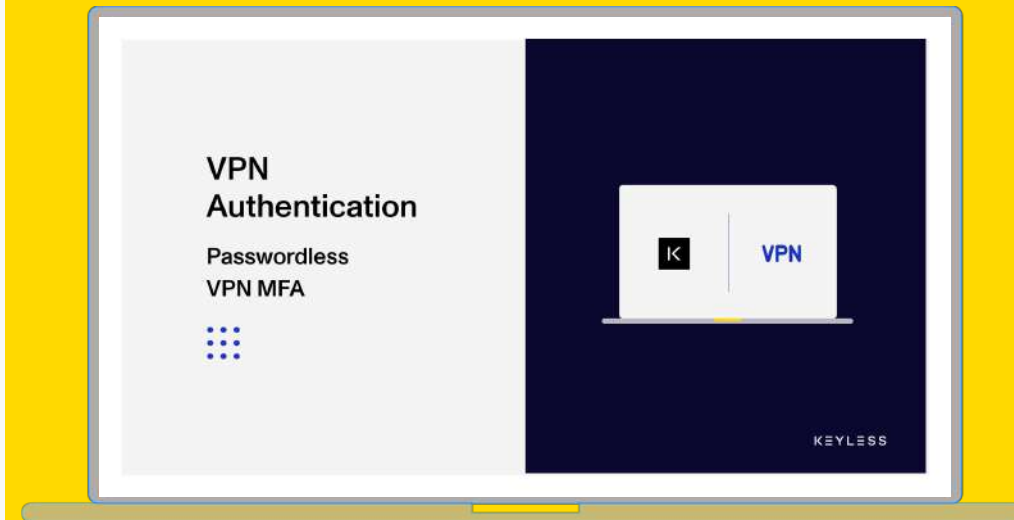
Rapid time-to-value  
Out of the box RADIUS  
plugin to your existing  
VPN



Better user experience  
Seamless access to your VPN  
with just a look



Strong security  
posture  
Minimize the risk of  
unauthorized access to  
your virtual network



With the growth of remote  
work, VPN usage has spiked  
54% in 2020.

Secure access to your remote desktops

# RDP and VDI Access

As remote work rises, the use of remote desktops expands across the enterprise. Keyless securely authenticates remote desktop connections with just a look.



No mobile phone required – MFA directly from your workstation



Native MFA for every desktop access – local or remote.

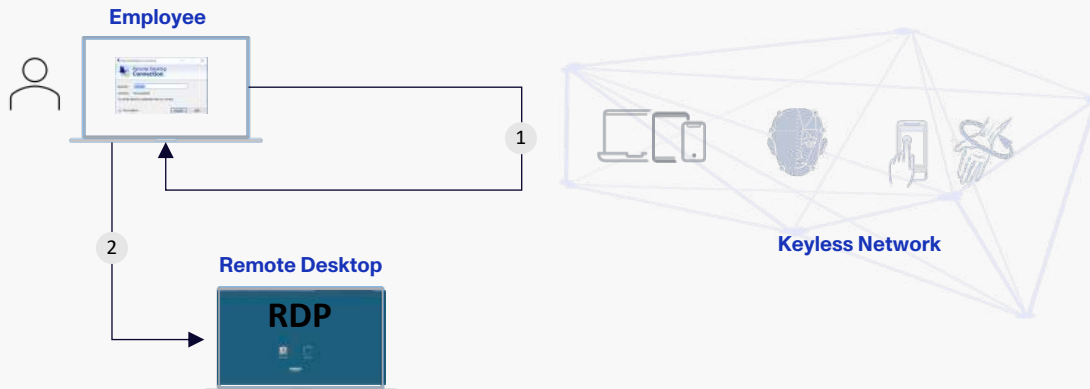


Step-by-step documentation and best practices for IT admins and end users



Seamless on any user device, OS or hardware; unifying the UX for all employees

## Passwordless RDP authentication (from workstation)



KEYLESS



**Reduced IT time & costs**  
No need to deal with password resets and lost credentials



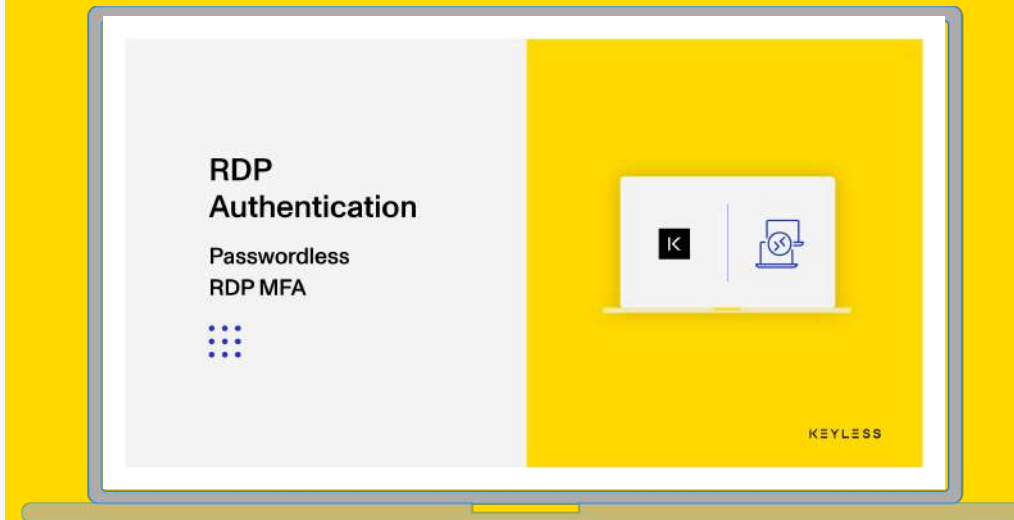
**Rapid time-to-value**  
Easily deploy the Keyless client across your organization



**Better user experience**  
Seamless access to your remote desktop with just a look



**Strong security posture**  
Minimize the risk of account takeovers and credential stuffing



Significant growth in the number of attacks targeting Microsoft's Remote Desktop Protocol during the Covid-19 pandemic. (McAfee)

# seamless integration



Modernize your existing identity infrastructure with pre-built integrations and get started in minutes



*And other identity providers based on SAML/OIDC based integrations*



# the competitive edge



		 KEYLESS	 Hardware token	 Mobile Push	 OOB SMS or Email	 Server-side biometrics	 Local biometrics
UX	Any device w/ camera (HW/OS agnostic)	✓	✗	✓	✓	✓	✗
	Consistent experience across all devices	✓	✓	✓	✓	✗	✗
Security	Built-in MFA with just one look	✓	✗	✗	✗	✗	✓
	Spoofing-proof, phishing resistant	✓	✗	✗	✗	✗	✗
Compliance	Exceeds GDPR compliance	✓	✓	✓	✗	✗	✓
	No PII stored or processed anywhere	✓	✓	✓	✓	✗	✗
Costs	No password related support calls	✓	✗	✗	✗	✓	✓
	Easy integration and maintenance	✓	✗	✓	✓	✗	✗

# case study

## Secure remote access for virtual exams

In response to COVID-19 lockdowns, **LUISS Guido Carli University** partnered with **Keyless** and **Cisco**, to allow their students to sit their summer exams remotely

13+K

Students

6+K

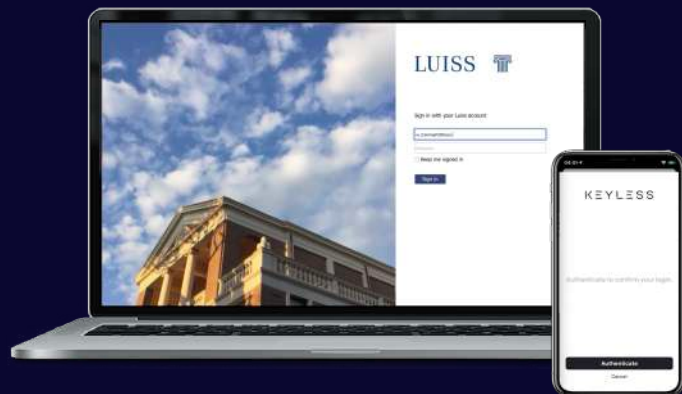
Auth/day

2.2K

Virtual exams

10

Days to go-live



Keyless ZKB™ : Zero-Knowledge Biometric Authentication

## Keyless Authenticator™

Simple, secure, and above all, private



**Nothing to remember**  
No central honeypot,  
no data on user device

**Anti-fraud protection**  
Eliminates phishing  
and man-in-the-middle

**Nothing to steal**  
One look multi-factor  
authentication

**Privacy compliance**  
GDPR compliant,  
private by design

**Ubiquitous experience**  
Any platform, any  
device, anywhere

**Easy to deploy**  
Integrates with all  
identity providers

*"The integration with LUISS and Keyless is a concrete example of the potential that can be unleashed when best available technologies come together. We've each approached this integration with openness, flexibility and safety in mind. In doing so, we've been able to ensure thousands of students can continue with their studies, pass their exams and graduate," said Agostino Santoni, CEO of Cisco Italy.*



# case study

## Passwordless MFA for Remote VPN Access

In response to COVID-19 lockdowns, a **European digital bank** partnered with **Keyless** to secure their remote workforce with seamless, secure remote access to VPNs and remote desktops



**Nothing to remember**  
No central honeypot,  
no data on user device

**Anti-fraud protection**  
Eliminates phishing  
and man-in-the-middle

**Nothing to steal**  
One look multi-factor  
authentication

**Privacy compliance**  
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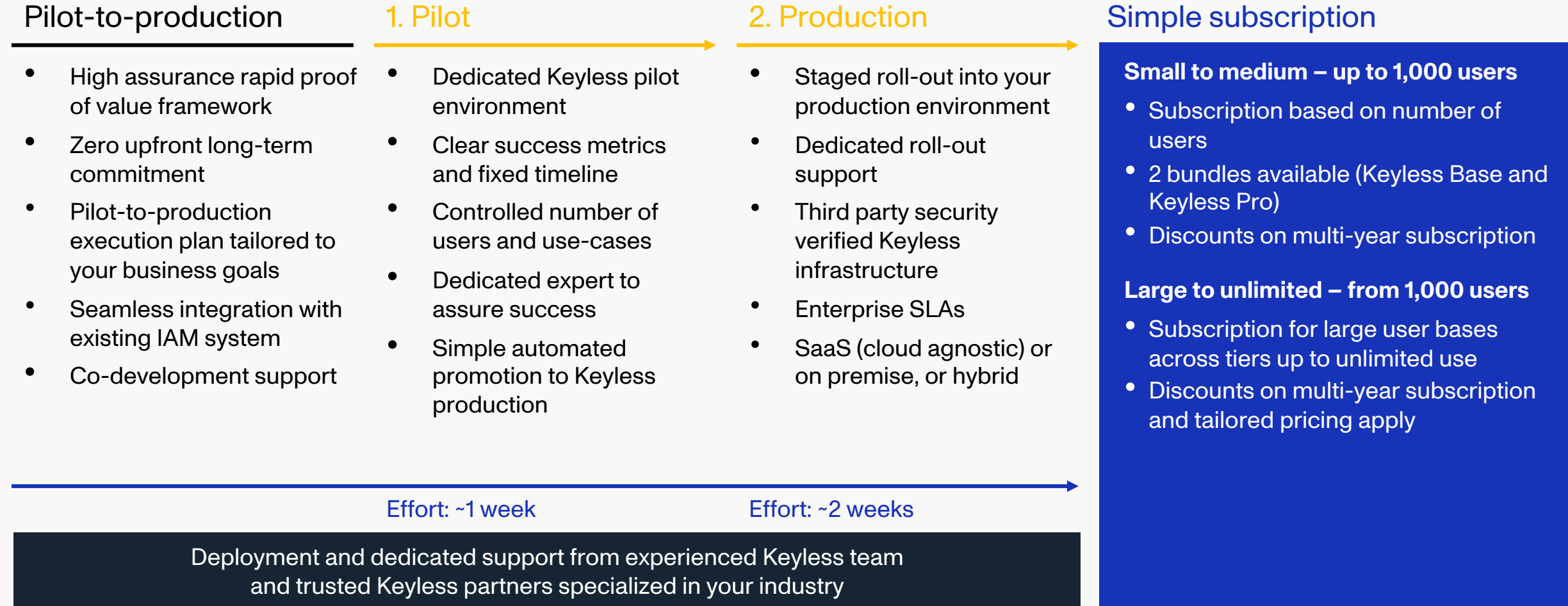
**Ubiquitous experience**  
Any platform, any  
device, anywhere

**Easy to deploy**  
Integrates with all  
identity providers

## Eliminating passwords in the financial sector



# rapid proof of value

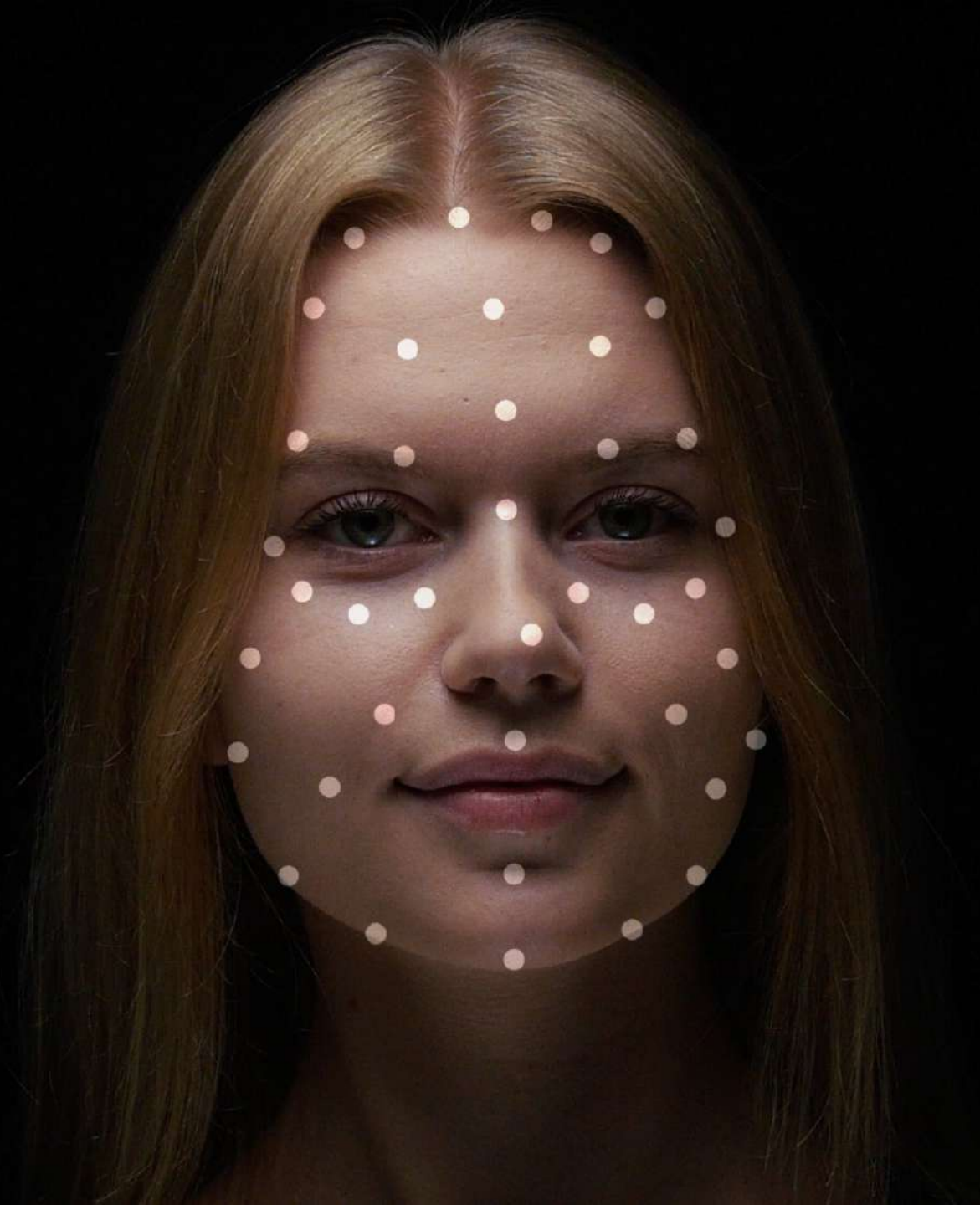


# Thank you!

 <https://keyless.io>

 [info@keyless.io](mailto:info@keyless.io)

 [@KeylessTech](#)



# supporting materials (1/2)

## Document

## Link

Company presentation

[click here](#)

Product presentation

[click here](#)

One-pager - Workforce

[click here](#)

One-pager - Consumer

[click here](#)

Use case: Financial Services

[click here](#)

Use case: Keyless for PSD2

[click here](#)

Whitepaper

[click here](#)

Technology : How it works

[click here](#)

## Videos

## Link

Strong Customer Authentication

[click here](#)

Customer MFA

[click here](#)

Windows Login

[click here](#)

Windows Login - Workstation

[click here](#)

Workforce MFA

[click here](#)

VPN Authentication

[click here](#)

RDP Authentication

[click here](#)

VDI Authentication

[click here](#)

Demo - OKTA Integration

[click here](#)

Demo - ForgeRock Integration

[click here](#)

Demo - Auth0 Integration

[click here](#)

# supporting materials (2/2)

## Thought Leadership

- Why you must go passwordless
- Embracing user-friendly authentication as strong security in Europe
- Identity is the new perimeter — how can companies protect it?
- What is Strong Customer Authentication?
- How Keyless uses zero-knowledge proofs to protect your privacy
- Why legacy security models don't work?
- What is zero-trust security?
- The 10 most common cybersecurity threats

## News and awards

- Official Partnership Microsoft Azure AD B2C
- Debut in Gartner's Hype Cycle for IAM
- Live with LUISS University and 10K students in partnership with Cisco
- #1 B2B Startup in South Europe (\$500K prize)
- #1 Biometric Authentication Solution in Banking Tech Awards
- #1 Startup in Italy - Telsy challenge
- #1 Startup in BNP Paribas challenge (€20K prize)
- #3 Startup in Slingshot 2020 Global (\$50K prize)
- #4 Top 7 Passwordless solution
- #Top 10 anti-phishing solution