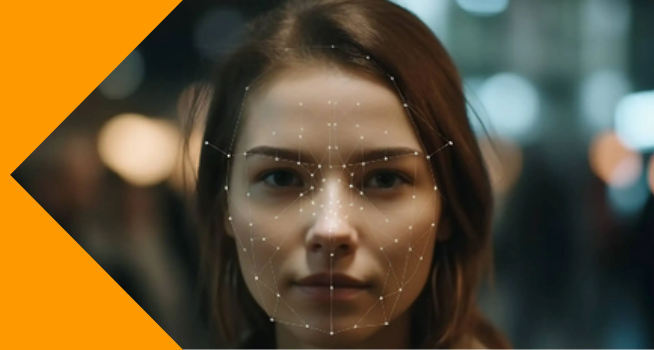


## V-OS Mobile App Shield

Cloud Based App Shielding Platform



**V-OS App Shield protects your mobile application with a simple, yet powerful, no-code protection solution that wraps a security management layer over your app without requiring any changes to its code or functionality.**

### 3 Steps to Deploy



Step 1

**Upload Your App**  
Easy-to-use cloud based service



Step 2

**Choose Your Protection Settings**  
Customize your code and app protection



Step 3

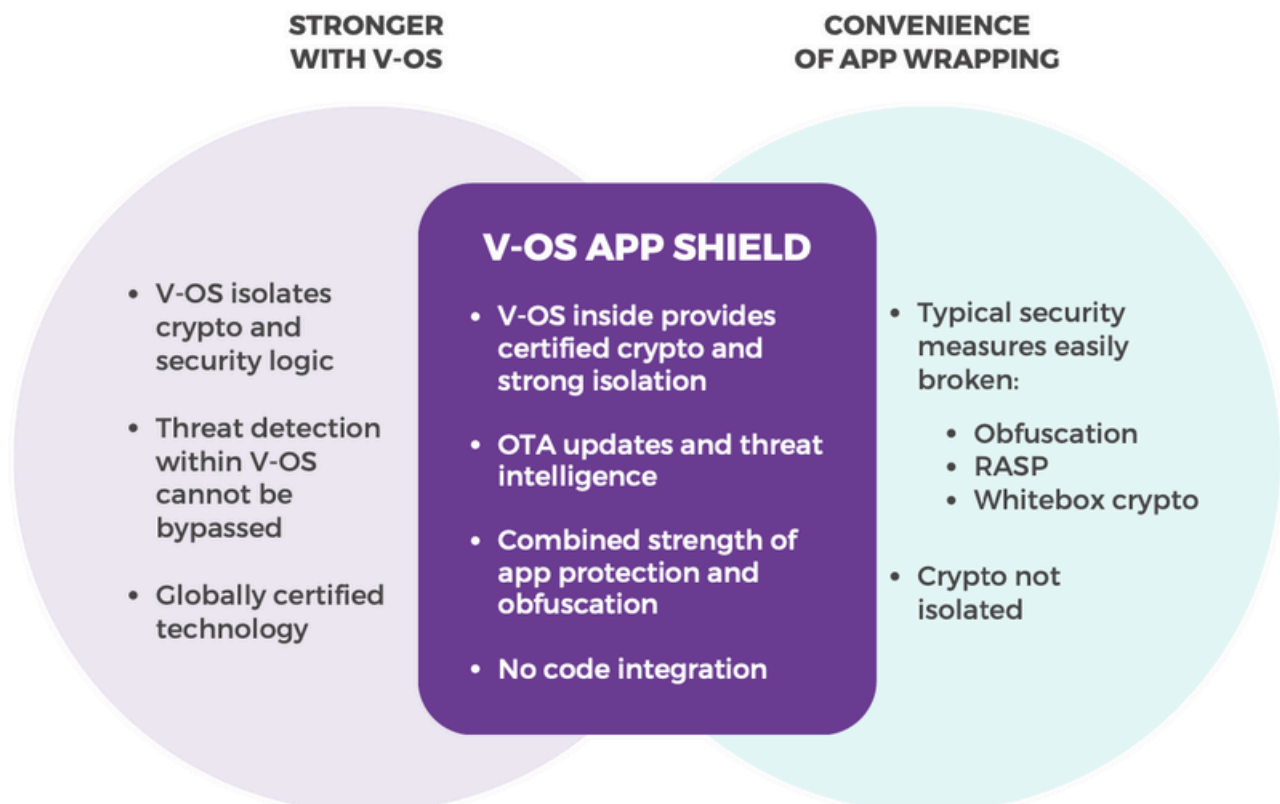
**Download your Protected APK**  
Celestix does not keep a copy of your app

According to Google, the average smartphone user uses almost 10 apps per day, or about 88% of 24-hours on mobile. Ensuring the security of these mobile applications is therefore of paramount importance for both developers and users. V-OS Mobile App Shield is a simple, yet powerful, no-code protection solution that wraps a security management layer to a mobile app without requiring any changes to the underlying core functionality. It can be deployed in three easy steps and does not require any modification of the app's source code. Just upload your app. No integration required

V-OS Mobile App Shield is a Cloud-based Service with many layers of robust Security features that block malware, ensures that encrypted data is bound to only your device, and encrypts sensitive data, such as security tokens and API keys. An optional service can also provide consolidated threat data from all devices and access them via a convenient dashboard. V-OS App Shield has been certified by 3rd- party evaluation labs using globally-recognized security standards such as FIPS 140 2 and Common Criteria. Our Cloud Service has also attained SOC 2 compliance. The V-OS Mobile App Shield is part of the V-OS Mobile App Protection Solution family.

APP SHIELD FEATURES	FUNCTIONALITY
No-code Integration	Protect your app within minutes. Simply upload your app and configure. No source code changes required.
CI/CD/DevOps Integration	Easily apply V-OS app shielding to every build of your app
Code Obfuscation	Protects your IP. Make it harder for attackers to reverse engineer or tamper with your app.
Configurable App Protection Profile with OTA Update	Decide how you want your app to respond to each threat category and update it anytime over-the-air to all devices
Device Binding	Ensure that encrypted data is bound to the device and not usable in any other devices
Secure File IO	Encrypt sensitive data, such as security tokens and API keys
Threat Intelligence	Consolidate threat data from all devices and access them via a convenient dashboard
Isolation of Security and Crypto Logic	Strong protection for security and crypto logic, just like a hardware secure element or Trusted Execution Environment (TEE)
Globally Certified	Certified by 3rd-party evaluation labs using globally-recognized security standards such as FIPS 140-2 and Common Criteria
Powered by V-OS Virtual Secure Element and V-OS App Protection	Be protected with the same technology used by the world's best banks

## V-OS App Shield: More Than App Wrapping



## Empowering App Security for Specialized Industries

Celestix V-OS App Shield is a groundbreaking solution specifically designed to cater to the unique needs of specialized industries, offering a basic yet robust level of security for your mobile applications. With V-OS App Shield, you can shield your apps from reverse engineering, tampering, API exploits, and other attacks that can compromise your business and customer data.

## Differentiation and Enhanced Security

While App Shield provides a light, sufficient, and basic security layer, Celestix offers an industry-leading V-OS Mobile App Protection SDK for customers seeking enhanced security measures. V-OS Mobile App Protection SDK is the pinnacle of mobile app security, trusted by the industry to safeguard critical applications and combat sophisticated threats. V-OS Mobile App Protection SDK offers advanced features and comprehensive safeguards, making it the ultimate choice for organizations with stringent security requirements.

## V-OS App Shield Comparison vs Mobile App Protection SDK:

FEATURES / FUNCTIONALITY	SOLUTION	
	V-OS APP SHIELD	V-OS MOBILE APP PROTECTION (SDK)
Cloud-based Integration	✓	✓
No Code Integration	✓	
Reverse Engineering Protection	✓	✓
Runtime Attack Protection	✓	✓
Regular OTA Updates	✓	✓
Fully Customisable Threat Responses		✓
Strong Encryption of Specific Data / Keys		✓
Advanced Protection		✓

# Obfuscation Solutions vs V-OS Mobile App Protection

Most in-app protection vendors implement one or more of the following: Obfuscation, Runtime Application Self-Protection (RASP), Whitebox Cryptography. All these, on their own, can be easily by-passed, or suffer from code lifting. A virtual secure element like V-OS has tamper protection capabilities that cannot be by-passed and is not susceptible to code lifting attacks.

	Typical Obfuscation Solutions	V-OS App Protection
<b>Integration approach</b>	Automated application of obfuscation based on configuration file	SDK integration provides better control over usage of features and flexible user experience
<b>App size</b>	Increased significantly after obfuscation	Adds about 2MB to app size <i>(depends on features used)</i>
<b>Supportability</b>	Difficult to troubleshoot if problems are caused by obfuscation	Encrypted troubleshooting logs allow Customer Support to resolve issues
<b>Security</b>	Most obfuscation schemes can be easily defeated	Critical code (defenses and crypto) are strongly protected by V-OS through isolation, which is proven through FIPS 140-2 and CC EAL3+ certifications
<b>Threat Intelligence</b>	No ability to collect threat information from endpoints for analysis	App Protection Server collects threat intelligence from all endpoints, which can be analyzed or fed into other systems such as fraud detection or SIEM

## What We Do

Celestix is a software-based digital security company whose technology powers security solutions that deliver the highest level of defense and control for digital identity, user authentication, access and authorization -- without compromising the user experience. It is trusted by government, banking, and mega-app clients across the region to connect people, organizations, and devices everywhere by securing the global digital economy.

## Our Mission

To provide a secure Universal Digital Identity to power trusted digital services globally. Celestix provides trusted, reliable, and secure Digital ID services that enable people to truly and safely participate in the modern economy.