

## ..... Protect your algorithms and machine learning (ML) models

Navigating the global IP and export control environment is a key challenge for highly regulated industries such as defense. Safeguarding intellectual property is crucial for maintaining a competitive edge, sustaining technological superiority, and preventing unauthorized access or replication by potential malicious actors.

### IP Protection for export control



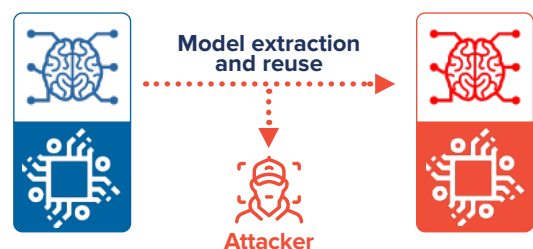
When defense-related IP and technology are exported, **foreign entities may engage in cyber espionage to gain access to the exported IP** and defense machines' technical details. Moreover, **sensitive codes are often at the risk of being run in an exposed environment.**

IP holders also often **license their software to other players such as customers, manufacturers, who then share the IP with multiple players within the ecosystem such as, suppliers, partners, contractors, subsidiaries, etc.**

To ensure that sensitive data and highly valuable technology involved in the export of defense related IP and machines is shared securely, it is **crucial to protect your applications against reverse engineering, unauthorized access, tampering and illegal reproduction.**

### Machine Learning Model at edge extraction

Machine learning models have brought substantial technological breakthroughs. Months of training efforts on vast and expensive data sets make models easy to reverse running on untrusted devices: **massive R&D efforts can be stolen, cloned, or tampered with by an attacker in minutes!**



## ..... Secure sensitive applications against the extraction and modification of code: protect data and intellectual property with QShield

Quarkslab's recognized **expertise in reverse engineering** has enabled the **integration of obfuscation against both static and dynamic attacks.** QShield's comprehensive app protection solution guarantees the **confidentiality and integrity of your sensitive applications against malicious access for export.**

..... Prepare your codes for export and protect your sensitive assets and intellectual property

<b>QShield App Protection</b> <b>Protections against Reverse Engineering</b>	
Supported languages	<b>C, C++, Objective C, Java, Kotlin, Swift</b>
Targeted architectures	Mobile/Embedded/Desktop ARM/ARM64/x86/x64
Security capabilities	<ul style="list-style-type: none"> <li>• Code and data obfuscation</li> <li>• AI model protection</li> <li>• Low code approach integrated with common IDEs</li> <li>• &gt;30 obfuscation passes available</li> <li>• Protection against static and dynamic attacks thanks to Runtime App Self Protection (RASP)</li> </ul>
<b>In-depth technical fact sheet available on request</b> <b>Support of a specific environment, programming language or other feature on demand</b>	

..... Security is best efficient in layers

Complement App Protection with Keys, Data Protection & Environment Checks modules to further elevate the security levels of sensitive/high value assets used by your applications

<div style="text-align: center; font-weight: bold; margin-bottom: 10px;"> <b>QShield</b>  <b>Keys Protection</b> </div> <ul style="list-style-type: none"> <li>▶ Cryptographic keys protection against extraction thanks to white-box cryptography.</li> <li>▶ Protect your keys against software and hardware attacks without requiring any dedicated hardware component.</li> </ul>	<div style="text-align: center; font-weight: bold; margin-bottom: 10px;"> <b>QShield</b>  <b>Data Protection</b> </div> <ul style="list-style-type: none"> <li>▶ Safely store sensitive/value-added data using software and/ or hardware security components.</li> <li>▶ Your data is always stored encrypted and can only be decrypted in authorized devices.</li> </ul>	<div style="text-align: center; font-weight: bold; margin-bottom: 10px;"> <b>QShield</b>  <b>Environment Checks</b> </div> <ul style="list-style-type: none"> <li>▶ Monitor device fleet sanity and detect tampering in real time. Adapt security policies thanks to Moving Target Defense.</li> <li>▶ Access actionable insights by monitoring on-field activity.</li> </ul>
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