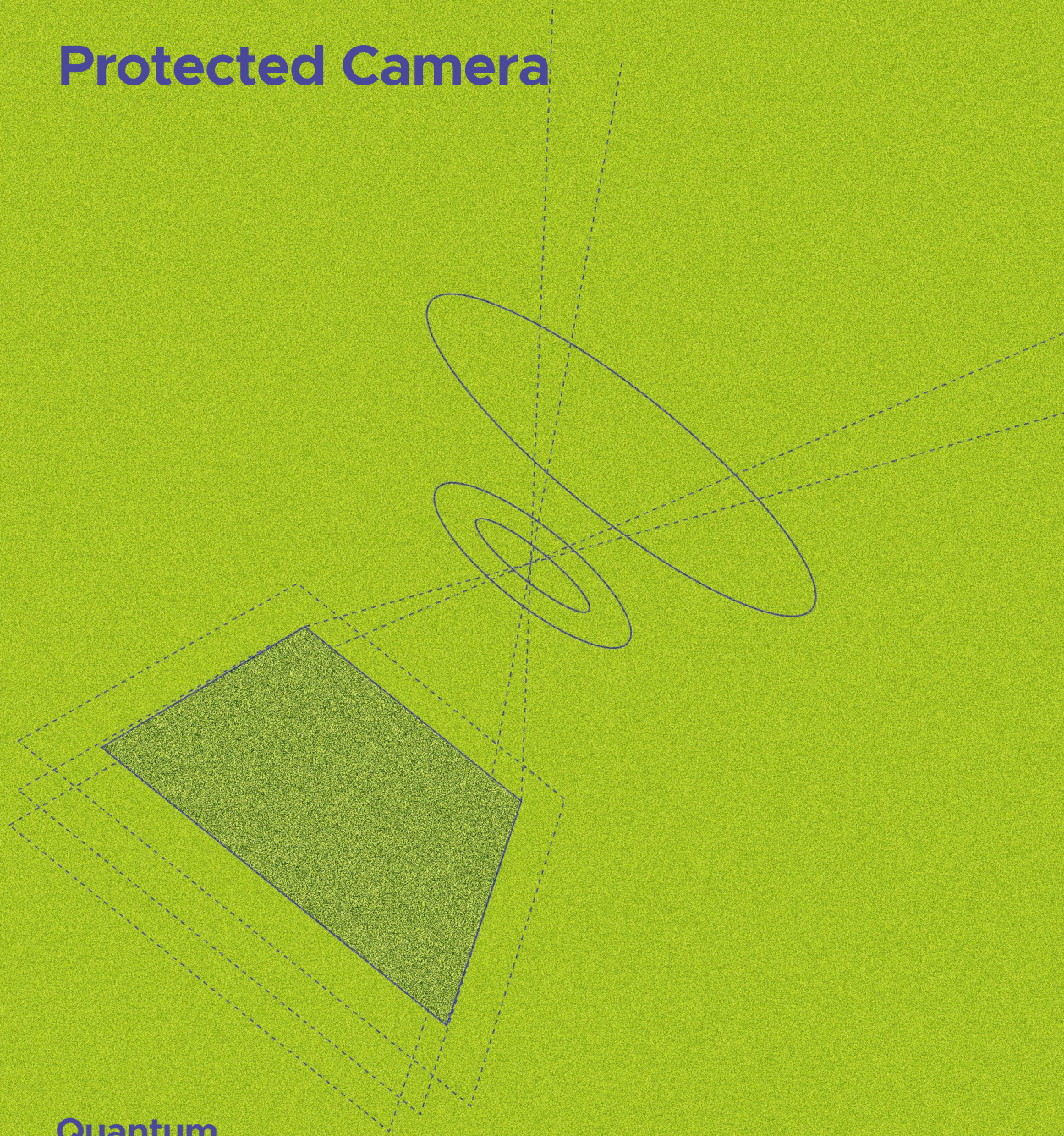


NodeV

QRNG

Protected Camera



Quantum
Security

sdt

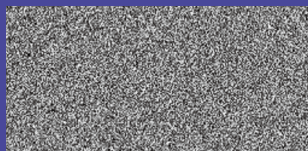
QRNG

Quantum Random Number Generator

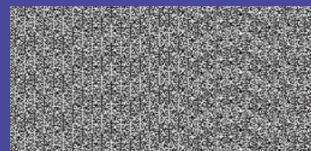
QRNG (Quantum Random Number Generator) harnesses the power of quantum mechanics, using naturally occurring quantum phenomena to generate truly unpredictable, secure random numbers.

Randomness: The Key to Ensuring Security in Modern Cryptographic Systems

Modern cryptographic systems rely on pseudorandom numbers based on mathematical algorithms. While challenging to crack, these numbers exhibit patterns or cycles, leaving them vulnerable to decryption by the immense computational power of quantum computers. As we enter the era of quantum computing, the need for truly random, completely unpredictable numbers becomes essential to safeguard security.



True Random



Pseudo Random

Benefits

Protecting Privacy Data

Preventing Cyberattacks

Safeguarding Classified Information

Improving Data Reliability

Applicable Industries

Military
and national
security
facilities

Power plants

Critical
infrastructure

Smart cities

Overview



NodeV is a state-of-the-art security camera that ensures end-to-end protection, from image capture to data transmission, using quantum random numbers for unmatched security.

Unlike typical QRNG systems that require separate hardware modules or chips, **NodeV** utilizes dark shot noise from its image sensor as the entropy source for generating random numbers, enabling a simpler and more cost-effective solution.

With the ability to securely transmit data to servers or the cloud, **NodeV** seamlessly integrates with machine vision systems for real-time anomaly detection, target identification, and tracking. Powered by SDT's proprietary certified cryptographic module, **NodeV** sets the standard as a next-generation security camera, delivering unparalleled protection for national defense and other critical applications.



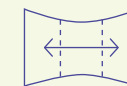
Cloud



AI



Ultra High
Definition



Panoramic View

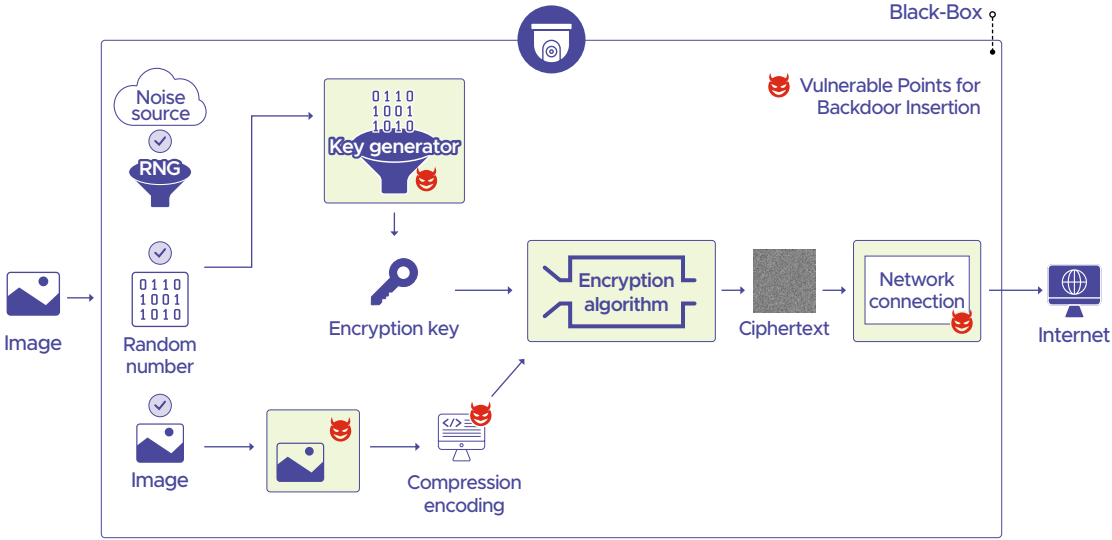


All-Weather
Durability

Specifications

Item	Specifications
Image sensor	1/2.8 CMOS
Lens	5.33-110mm x21 optical zoom , F1.65~3.8
Effective pixels	UHD (3,480 x 2,160 pixels)
Video output / frame	normal 30 fps · wdr 15 fps
Night vision / IR range	Day / Night Automatic IR Cut Filter, IR Range Max. 400mm
View angle	WIDE 66.42(d), 54.26(h), 41.26(v) TELE 3.3(d), 2.66(h), 2(v)
Rotation angle	360°
Power	12V
Output	RJ45
Water / Dust proof	IP66
Operating temperature	-20 - 50°C

Why Cameras Need QRNG Technologies



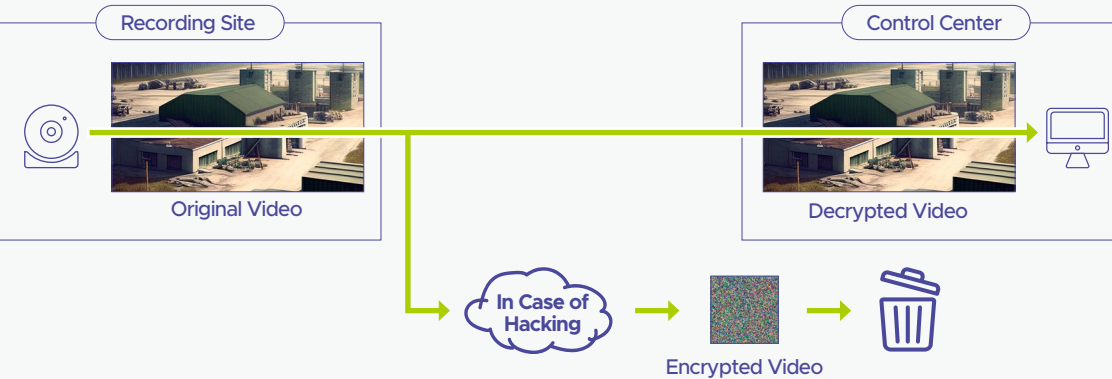
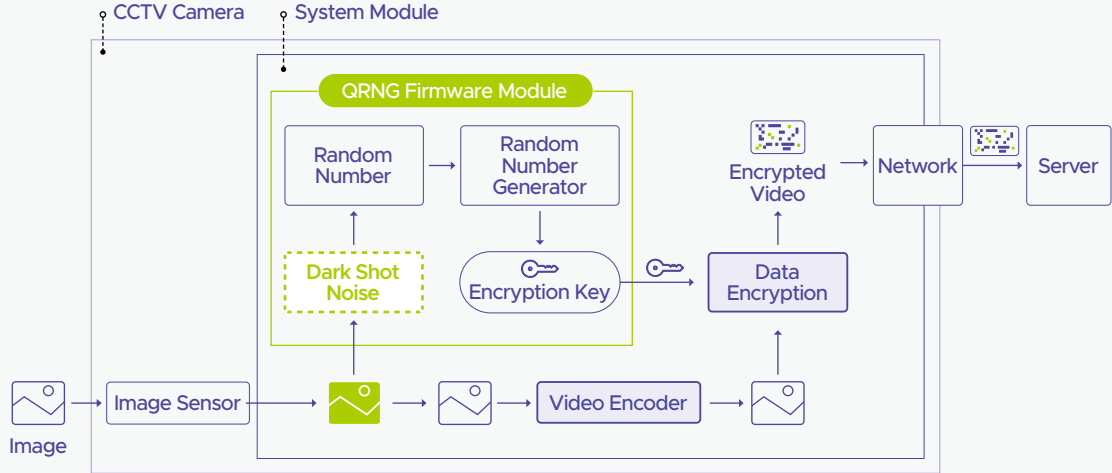
- How security breaches occur with camera systems
- Exploitation of default IDs and passwords: gateway to unauthorized access
 - Manipulating encryption algorithms and key generation processes to steal user key information and image data
 - Inserting a backdoor while ciphertext traverses network segments, allowing a third party to send and receive hidden messages
 - Steganographic concealment using image insertion or the modification of specific pixels within an image
- To fundamentally eliminate these security risks, SDT has introduced the NodeV camera, which leverages QRNG technology to provide unmatched protection from the moment the data is created.

Benefits

NodeQ vs. Standard IP Cameras

	NodeV	Standard IP Cameras
Cryptographic Methods	· Unmatched security powered by QRNG technology	· Conventional encryption techniques that are more vulnerable to hacking
Data Transmission	· Direct, encrypted transmission to the server or cloud, without intermediate steps	· Data transmitted through an NVR, creating intermediate stages that increase vulnerability to hacking
Video Quality	· 4K high-resolution video	· Standard video quality

NodeV Architecture



NodeV ensures ultimate security by encrypting video data with quantum random numbers generated directly by the image sensor. From the moment of capture, every frame is safeguarded, granting access exclusively to authorized users. With hacking virtually impossible, even in the rare event of a breach, intercepted footage remains completely unusable to unauthorized parties.

References

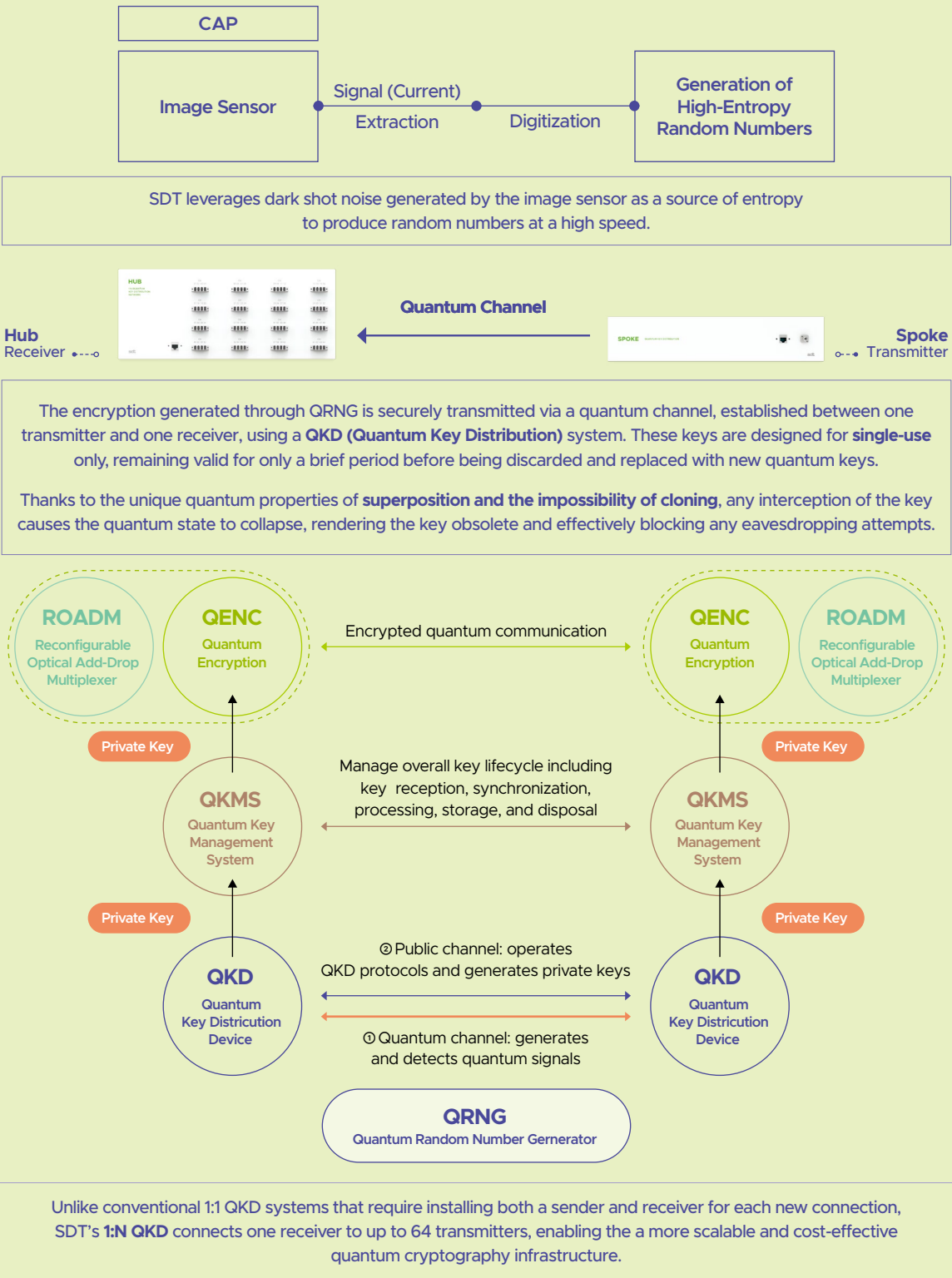
Military Facilities

Military installations demand secure, real-time monitoring but face constant threats of data interception during transmission. NodeQ eliminates this risk with encryption keys powered by QRNG technology, generating a unique key for every session. This advanced approach blocks repeated attacks and prevents attempts to extract encryption keys, ensuring surveillance footage remains untouchable and tamper-proof against any adversary.

Semiconductor Manufacturing Plants

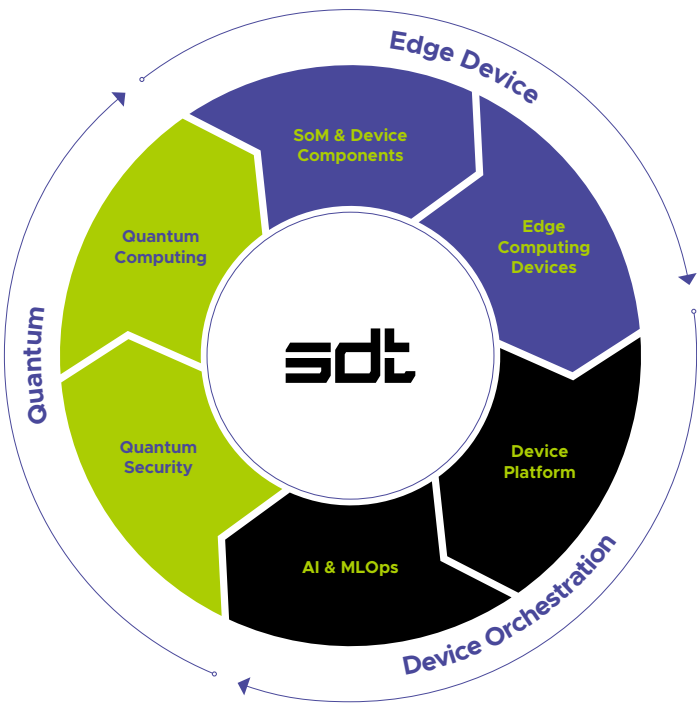
Semiconductor manufacturing plants face serious risks of industrial espionage, with traditional cameras often falling short on security. NodeQ goes beyond secure video capture by seamlessly integrating with vision AI solutions to automatically detect critical details, such as safety gear compliance. This advanced technology not only enhances security but also elevates workplace safety standards, providing unparalleled protection and peace of mind.

QRNG & QKD Ecosystem

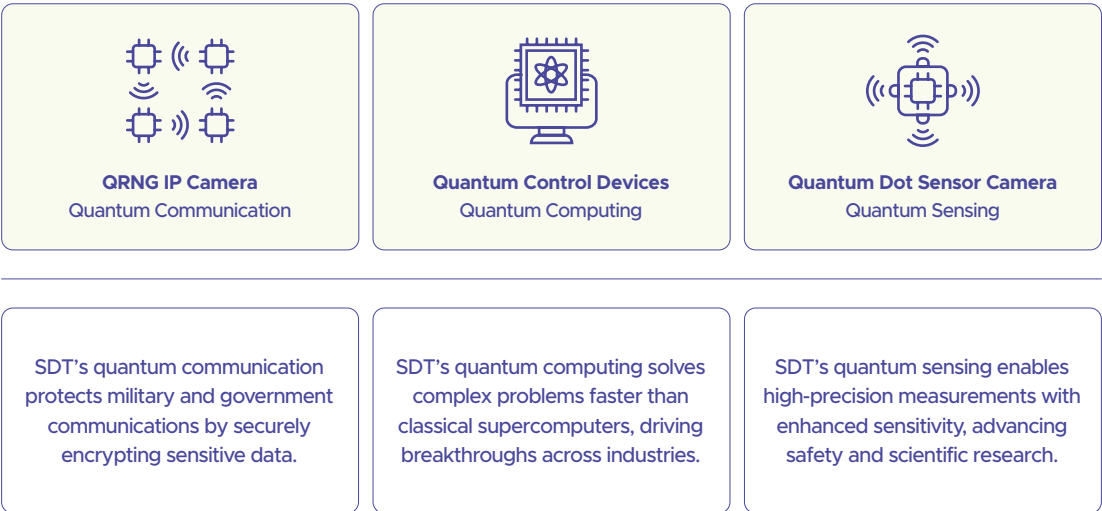


Bringing Quantum-Secured Channel to Your Sites

SDT delivers cutting-edge protection and secure transmission of all information using advanced quantum encryption keys, setting the standard in quantum cryptography technology



Products & Solutions





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