



*Defending Our Nation. Securing The Future.*

The **National Security Agency/Central Security Service (NSA/CSS)** is home to America's codemakers and codebreakers. The National Security Agency has provided timely information to U.S. decision makers and military leaders for more than half a century. The Central Security Service was established in 1972 to promote a full partnership between NSA and the cryptologic elements of the armed forces.

### **What does the NSA/CSS do?**

NSA/CSS has two interconnected missions: Signals Intelligence (known as SIGINT) and Information Assurance (now referred to as Cybersecurity). Through SIGINT, we gather information that America's adversaries wish to keep secret. Through Cybersecurity, we protect America's vital national security information and systems from theft or damage by others. Taken together, the SIGINT and Cybersecurity missions are essential to a third function: enabling Network Warfare, a military operation. Through carrying out its missions, NSA/CSS helps save lives, defend vital networks, and advance our Nation's goals and alliances, while strictly protecting privacy rights guaranteed by the U.S. Constitution and laws.

### **How and when was the National Security Agency Established?**

NSA was established on November 4, 1952, by order of President Harry Truman. This decision followed the Nation's important work in breaking German and Japanese codes during WWII, which contributed to Allied success against the German U-Boat threat in the North Atlantic and victory at the Battle of Midway in the Pacific, and other contributions. President Truman's decision to establish NSA followed several studies on how best to continue this codebreaking work in the post-war era.

### **Who is the head of NSA/CSS?**

The Director, NSA/Chief, CSS, is GEN Paul M. Nakasone, United States Army. The Director is appointed by the Secretary of Defense and approved by the President of the United States. The Director, NSA/Chief, CSS, is always a commissioned military officer with a rank of four stars. He also serves as the Commander, U.S. Cyber Command, in a dual assignment.

### **Can you explain the NSA seal?**

The NSA seal was designed in 1965 by direction of NSA Director LTG Marshall S. Carter, United States Army. The seal shows an eagle within a circle, holding a key. The eagle - a symbol of courage, supreme power, and authority - represents the national scope of NSA's mission. The shield on the eagle's breast is drawn from the Great Seal of the United States, and represents the states drawn together under a single chief that unites them and represents Congress. The key in the eagle's talons represents security. It evolved from the emblem of St. Peter the Apostle, and his power "to loose and to bind." The circular shape of the seal is a symbol of eternity.



# NSA Research

Advancing Intelligence Through Science



## Maintaining the competitive edge

NSA's Research Directorate maintains NSA's competitive edge in mission-oriented scientific breakthroughs. The Directorate researches and develops technologies and techniques to advance NSA, Department of Defense, and Intelligence Community capabilities for SIGINT and cybersecurity operations for the next generation and beyond. NSA has the largest in-house research organization in the Intelligence Community, with experts in fields such as mathematics, physics, computer science, engineering, and cybersecurity.

## Mission-oriented research

NSA Research recruits exceptional scientists in fields like mathematics, computer science, cybersecurity, engineering, physics, neuroscience, cognitive psychology, and linguistics. Our highly technical and talented workforce performs cutting-edge research, giving our nation the advantage it needs to find creative solutions to its most vexing problems. Through patent agreements, open source software releases, and other mechanisms described on the next page, NSA transfers technology to industry, academia, and other research organizations, benefitting the economy and the Agency's mission.

### Mathematics

Researchers perform mathematics research and cryptographic design, applying advanced techniques from mathematics-related fields. Areas of research include creating cryptomath; information processing; network/data analysis; signals intelligence; information assurance; and cyber defense.

### Computer & Analytic Sciences, including the Laboratory for Analytic Sciences

NSA Research conducts mission-focused research to invent techniques, tools, and tradecraft to augment analysts' ability to derive intelligence from increasingly complex data.

### Telecommunications & Network, including the Laboratory for Telecommunication Sciences

Collaborating with academia, industry, other government laboratories, and the Intelligence Community, NSA Research conducts both classified and unclassified research in areas such as advanced networking; computing; and telecommunications.

### Physical Sciences, including the Laboratory for Physical Sciences

NSA Research conducts research in microelectronics integration; photonics and electromagnetics; solid-state and quantum physics; and advanced computing. Researchers develop new and innovative techniques and technologies to support the Agency's mission.

### Cybersecurity

Enabling mission effectiveness by advancing the science of information assurance to facilitate resilient and scalable cybersecurity and cyber operations solutions for the Department of Defense and the Intelligence Community.