

UNCLASSIFIED



HYPERSONIC THREAT ASSESSMENT

Defense Intelligence Agency

STATEMENT FOR THE RECORD
HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE
UNITED STATES HOUSE

Paul F. Freisthler, USAF DISL
Chief Scientist, Directorate for Analysis, Defense Intelligence Agency
2023

Information available as of 02 / March / 2023 was used in the preparation of this assessment

UNCLASSIFIED

INTRODUCTION

Chairman Lamborn, Ranking Member Moulton, and members of the committee, thank you for the invitation to provide the Defense Intelligence Agency's (DIA's) assessment of China's and Russia's hypersonic weapons systems. I am the Chief Scientist of DIA's Directorate for Analysis and the Defense Intelligence Officer for Scientific and Technical Intelligence for the Defense Intelligence Enterprise.

Amid the backdrop of strategic competition, the events of the past several years demonstrate in no uncertain terms that our competitors are developing capabilities aimed to hold the U.S. homeland at risk. Hypersonic weapons, designed to evade U.S. sensors and defensive systems, pose an increasing and complex threat due to the availability of both nuclear and conventional capabilities, challenging flight profiles, and maneuverability. These weapons include air-, ground-, and naval-launched variants as hypersonic glide vehicles (HGVs), hypersonic cruise missiles (HCMs), and aero-ballistic missiles. Unlike ballistic missiles, hypersonic weapons, which fly at speeds of at least Mach 5, that is five times the speed of sound, for a significant portion of their flight do not follow a ballistic trajectory, and can maneuver en route to their destination. While both China and Russia have conducted numerous successful tests of hypersonic weapons, and have likely fielded operational systems, China is leading Russia in both supporting infrastructure and numbers of systems.

CHINA

Over the past two decades, China has dramatically advanced its development of conventional and nuclear-armed hypersonic missile technologies and capabilities, through intense and focused investment, development, testing, and deployments. China has a robust research and development infrastructure devoted to the development of hypersonic weapons. For example, the China

Aerodynamic Research and Development Center claims to have 18 wind tunnels, and the China Academy of Aerospace Aerodynamics claims to operate at least three hypersonic wind tunnels capable of operating at speeds of Mach 8, Mach 10, and Mach 12.

China has conducted a number of successful tests of hypersonic weapon systems, including the DF-17, which is a medium-range ballistic missile with a hypersonic glide vehicle payload. It is estimated to have an approximate range of at least 1,000 miles enabling it to reach U.S. military forces in western Pacific, and may have been fielded in 2020. China is also pursuing an intercontinental-range ballistic missile with a hypersonic glide vehicle payload and has conducted several flight tests since 2014, including a test in July of 2021 that circumnavigated the globe.

China also is actively pursuing high-speed engine, or “scramjet,” technologies which have applications in hypersonic cruise missiles, and has used the Ligngyun Mach 6+ scramjet test bed to research thermal resistant components and hypersonic cruise missile technologies, which would further expand its hypersonic weapons capabilities.

RUSSIA

Russia has performed research on hypersonic weapons technologies since at least the 1980s. Russia reportedly conducts hypersonic wind tunnel testing at the Central Aero-Hydrodynamic Institute and the Khristianovich Institute of Theoretical and Applied Mechanics, and has performed hypersonic weapons testing at several locations across the country.

Russia currently has three deployed hypersonic weapon systems. In 2018, President Vladimir Putin mentioned the first system, the Kinzhal air-launched ballistic missile, claiming it has a top speed of Mach

10, with a range of over 1,200 miles. The second system, the SS-19 Mod 4, achieved initial operational capability in 2019, and is the worlds only deployed strategic-range hypersonic glide vehicle. Russian government officials claim the hypersonic glide vehicle is capable of flying at speeds over Mach 20, with a range of approximately 6,500 miles. The third system, the Tsirkon, is a ship-launched hypersonic missile that travels at speeds up to Mach 8 with a maximum range of approximately 600 miles.

Russia has also declared its intentions to expand its strategic hypersonic weapons inventory in the coming years by eventually placing multiple hypersonic glide vehicles on the developmental intercontinental ballistic missile, known as the Sarmat, and developing another air-launched hypersonic, long-range missile called the Kh-95.

CONCLUSION

My goal in this hearing is to help Congress and the Nation better understand the threats we face as a nation. DIA aims to support this committee in identifying opportunities to respond to these challenges. Thank you for your continued confidence. We are grateful for your vital support to DIA.