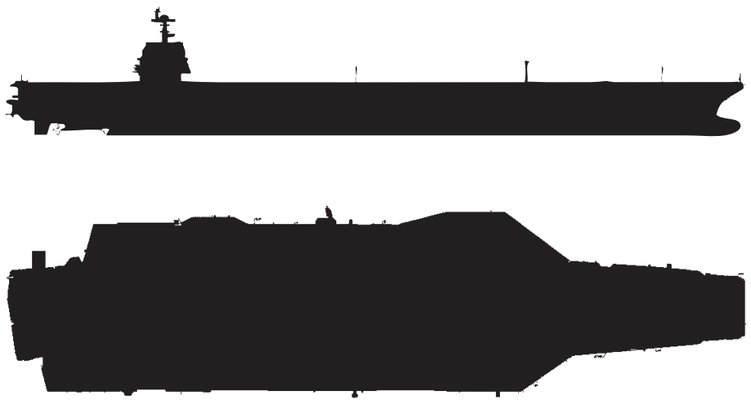
The Ford-Class Carrier

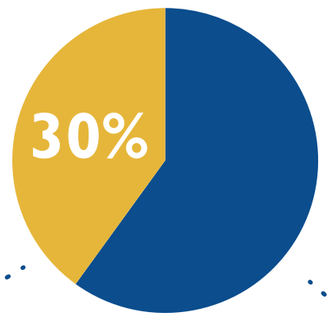


Gerald R. Ford (CVN 78) is the Navy's first aircraft carrier to be completely designed using a three-dimensional product model. The Ford-class continues the legacy of U.S. Navy aircraft carrier ship platforms, specifically from the Nimitz-class. They have the same hull lines and the same number of decks as a Nimitz-class carrier, but the footprint of the structure has been rearranged to accommodate new technology and meet all of the Navy's operational requirements. Enhancements being incorporated into the design include flight deck changes, improved weapons handling systems, and a redesigned island, all resulting in increased aircraft sortie rates. It also includes a new nuclear power plant, increased electrical power generation capacity allowance for future technologies, and a reduced workload for the sailors, translating to a smaller crew and lower operating costs for the Navy. The overall design of the ship provides the Navy a more capable ship as well as reduced cost.

Efficiency

Due to increased levels of automation, the new carrier requires 30% less maintenance, which decreases the number of essential crew members.

Increased electrical power generation capability allows electric powered equipment to replace legacy steam powered auxiliary systems outside the propulsion plant reducing maintenance and manning required to support those systems.



The Weapons elevators have been redesigned to improve maintenance costs and mission capabilities. They are electromagnetic, similar to EMALS.

The Ford-class design incorporates a "flexible infrastructure," which saves the Navy significant costs over the life of the ship as new missions require space reconfiguration.

EMALS

An Electromagnetic Aircraft Launch System (EMALS) is a system used to launch aircraft from the carriers via a linear motor drive, which replaces the original steam catapult technology.

EMALS can control the launch performance with greater precision than a steam catapult allowing it to launch more kinds of aircraft, from heavy fighter jets to light unmanned aircraft.

EMALS applies less force on an airframe when launching planes, and new advanced arresting gear induces less stress on the aircraft when landing which reduces maintenance needed to keep planes flight-ready.

The Ford-class has a new nuclear reactor designed to reduce maintenance and manpower.

Safety

In order to increase safety and reduce manning, the Ford-class has a redesigned stowage and handling space for weapons.

The new island design of the Ford-class replaces the old rotating radar antennas with advanced phased arrays which reduces maintenance, manning and also provides a reduced signature for incoming cruise missiles.

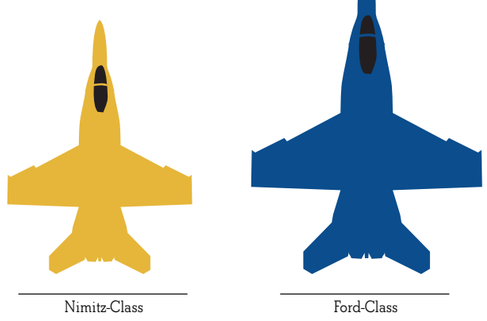
The Ford-class includes Evolved Sea Sparrow Missiles (ESSM), which provides improved performance due to a more powerful rocket motor and improved aerodynamics.

Sorties

The many upgrades and enhancements to the Ford-class allow for 25% more sorties per day than the Nimitz-class.

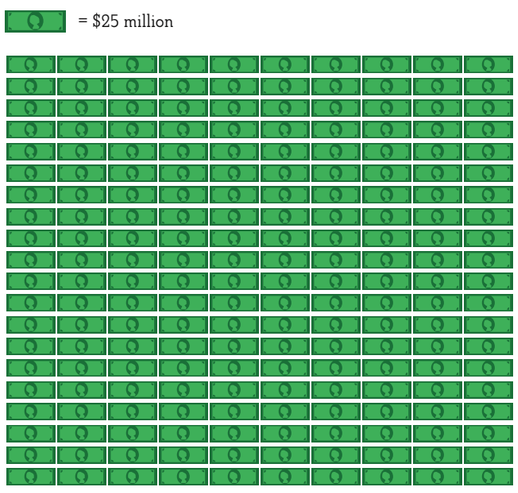
The redesigned and relocated island is smaller in size, allowing for more efficient flight deck operations.

Due to a higher sortie requirement, the flow of weapons has been significantly upgraded.



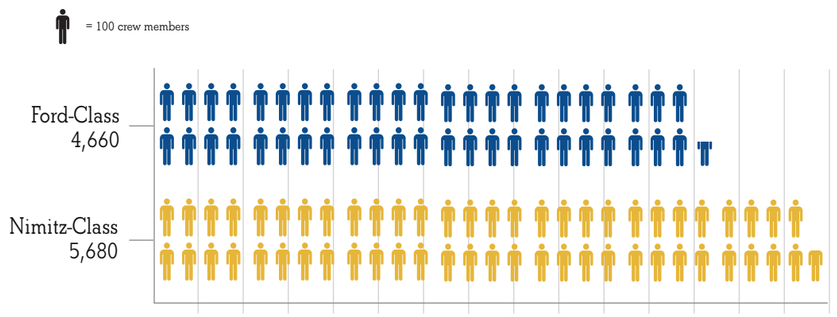
$5 Billion

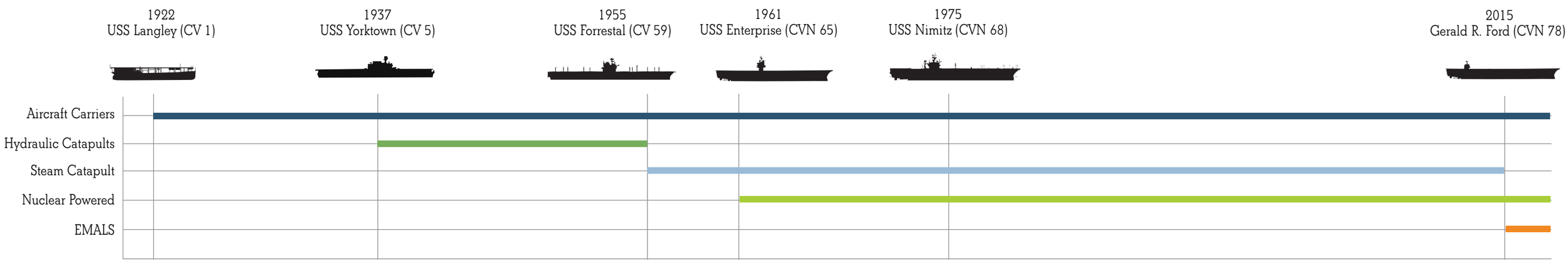
This carrier class costs less to operate over its 50-year life because fewer people are required to operate and maintain the ship. The ship manpower reduction goal is between 500-1,200 billets less than a Nimitz-class ship. The overall manpower savings to the Navy is expected to be approximately $5 billion over its 50-year life.



Crew

Due to operational requirements that call for a reduction in manpower, there are 500 to 1,200 fewer crew members operating the Ford-class.





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