The landmark Vehicle Assembly Building at NASA's Kennedy Space Center in Florida is getting a renovation so it can remain a fixture of America's space program.

After almost five decades stacking and processing Saturn Vs and the space shuttle fleet, the VAB needs improvement on a grand scale to service new launchers expected to debut in the next few years.

The new designs include the Space Launch System, a massive rocket intended to return astronauts to deep space.

The building also will be set up to host commercial rockets that are much smaller.

With that in mind, engineers from the Ground Systems Development and Operations Program have designed flexible systems that can meet the needs of several different kinds of boosters.

They also are making provisions for handling spacecraft, including NASA's Orion, now in development.

But much of the work will focus on replacing wiring, cables and fire protection system piping to meet modern standards and increase reliability.

Already, 70,000 feet of cabling has been pulled out of the building's cable trays.

In all, 50 miles of cables will be removed. Most are bundles of copper wiring that were common in 1965,
when the VAB was constructed.

Now, it only requires a couple fiber-optic lines about as wide as a finger to meet the needs of rocket processors.

Seven huge platforms bolted in High Bay 3 to service the Saturn V will be removed to make room for modern structures, each weighing about 90,000 pounds.

The new platforms will be outfitted with everything required to process a rocket and spacecraft.

The focus is to upgrade the VAB for a new generation of launchers and missions to allow NASA and its partners to continue to meet national goals of space exploration.