

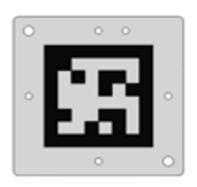
## What is a fiducial?

A fiducial is a small decal that can make a big difference in space. Used to align components, a fiducial acts as a target and guide all in one — helping robots find spacecraft and perform tasks.

Fiducial markers, also known as rendezvous fiducials, are low-cost, low-mass tools that NASA uses to bridge the gap between legacy and prepared satellites. Though you may assume it is just a QR code, the fiducials NASA uses are more complex. When a fiducial is detected, it can relay key data that allows the software to compute its precise 3D position, orientation, and identity of the tag relative to the camera.

## **Looking Toward the Future**

Going forward, the goal is to have fiducials incorporated into



spacecraft to enable autonomous satellite servicing tasks, like repairs or refueling operations. This is part of the push towards *cooperative servicing*, the implementation of design features to enable inspace servicing, assembly, and manufacturing.