According to data of NASA, the areas where it must be applied a wireless transmission data and technology method are the following:

-“Systems engineering and integration for the reduction of wiring and connectors”.

-“Provision for modularity and accessibility of the vehicle”.

-“Alternatives to cable connectivity for designers and system operators”.

The wiring system has different alternatives when replacing them for payload such as the implementation of a new emergency system, new components, or optical fiber, due to the increase of copper worldwide.

The potential wiring components to be replaced for wireless signals are divided in four parts:

-Low data system in interior applications:
Pressurization sensors, smoke detection, fuel quantity on the aircraft, proximal temperatures, structural life, corrosion and humidity detection.

-Low data system in outdoor applications:
Ice detection sensors that deform the aerodynamic profile, the landing gear position, the outside pressure, door sensors and structural sensors.

-High data systems in interior applications:
Air data sensor, engine forecast, flight images, of cabin

-High data systems in outdoor applications:
Structural life sensor with constant monitoring

Besides, an aircraft has classification systems, which is a good starting point, so it can be chosen the systems able to be replaced by wireless technology. The analyzed systems were:

-Electric system
-Fuel system
-Flight controls system
-Hydraulic system
-Pneumatic system
-Oxygen system
-Environmental control system
-Power plant
-Landing gear system
-Interior conditioning system

The systems where it can be implemented the new wireless technology are the following systems: electric, power plant, landing gear, interior conditioning system. Some parts of the aircraft could be modified, but these have less risk when implementing them.

From the previously mentioned, only some of them can be replaced because it is used technology in prototype phase, which is insecure. Thus, the systems that can not be replaced with wireless components are fuel system, flight control, hydraulic, pneumatic, and oxygen system; this because, since they are vital for the control and security of the aircraft and is complicated due to the risk of sabotage.

Of all the systems, the most viable to be used as part of the solution of team “Helios” is the partial modification of the electric system, because the progressive usage of hacking technologies does not allow to implement wireless technology to more important systems. Since is a complex job in a big aircraft, it was chosen just the modification of the electric system, centralized in the cabin of passengers.