***Docking to charging unit*:**

**Problems:**

Providing the safe and easy done lock to charging socket.

**Solution:**

Solution will be based on the principle of rough mechanical lock with grabbing mechanism on legs and pair of electromagnet (on the socket side) and permanent magnet on the side of drone.

Four docking points could be marked with either QR code stickers or any optical marker (that would be used for guidance by computer vision) or by RfId tags.

Once the drone would mechanically lock to these points it will try to approach further by the means of moving it's legs in order to get the charging socket plugs closer together in order for magnetic lock finalizing the docking procedure.

Electricity through the electromagnet can be triggered by proximity sensor (ultrasound of radio-wave based – which is preferred because of decompression scenario) or mechanically (by the grappling hands).

The contact doesn't even have to be completely achieved if there is specific use-case. In this case we could even use, thou less efficient, electromagnetic induction charging technic.

Instead of (electro)magnetic locking system to a charging unit, we could use purely mechanical one that could use a cone shaped socked in order to lower the need for very precise movement during the locking.