

Preliminary list of user requirements - Extract from the Statement of work:

- As a minimum the following effects to be simulated shall be considered:
  - wire boom interaction with plasma (including secondary emission and particle collection);
  - solar arrays plasma interaction (including interconnectors current collections);
  - energy spectrum of secondary particles (including photo-electron);
  - input energy spectrum from the sun in UV-X range;
  - detailed characteristics of particle beams emitted by active devices such as ion emitters (when relevant);
  - low potential variation due to radar systems;
  - exposed high voltage systems;
  - magnetic field effect on charged particle collection and emission;
  - wake effects;
  - shading;
  - magnetically induced electric field;
  - detailed characteristics of ground based testing environment;
  - detailed characteristics of ambient charged particle environment;
  - deep dielectric charging effect on surface potential;
  - transient effects due to dust impacts;
  - rotating spacecraft;
  - pitch angle dependency of ambient particles;
  - partially transparent grids, e.g., as part of sensors;
  - non inter-acting detectors;
  - photo-ionisations of neutrals;
  - neutral interaction with surfaces (reflection, adsorption and evaporation)..
- The above list of effects is by no way limiting and the contractor is invited to include other relevant effects in the proposal.
- The accuracy requirement for the physical parameters used as input or output of the simulation shall be defined.
- The relevant simulation performance shall be defined.

A User Requirements document shall be generated based on the above analysis.