

Introduction to SIMULUS

SIMULUS is a framework for the development of simulators, in particular space segment operational simulators, developed at the European Space Agency - European Space Operations Centre (ESA/ESOC). It is based on the [ECSS SMP Standard](#) and uses a model based development approach.

SIMULUS is composed by a collection of several Products that serve many purposes: from a ECSS-SMP compliant simulation kernel, to an emulator for ECR32/LEON2/LEON3 CPUs, or even a collection of generic models representing different concepts and elements of spacecraft components.

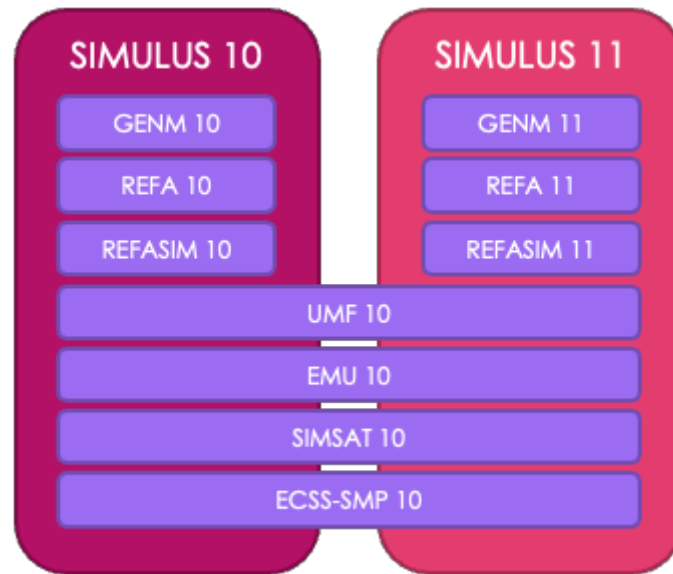
Due to this product heterogeneity as well as its layered approach, it is possible to pick and choose which SIMULUS Products to use according to one's needs. In example one may make use of the simulation kernel but not follow a model-driven approach and therefore not make use of the modelling tooling. However the different products also have inter-dependencies that must be respected. Details on each SIMULUS Product can be found in the [projects page](#).

Being such a diverse collection of products, SIMULUS provides quite a large amount of reference documentation. Also due to its heritage of being developed within ESA it makes use of concepts and terminology which may not be very familiar outside of its domain. To facilitate its navigation, a guide is available in the [documentation page](#).

To help one to start with SIMULUS, a [Getting Start Guide](#) is available.

SIMULUS Versions

The latest SIMULUS version is 11. This should be the default version of choice and the one recommended to be used. However, due to heritage constrains and to avoid duplication of content, there is some interweaving with the previous SIMULUS 10 version. The following picture provides an high-level perspective of the two versions:



As one can see, the actual difference between these two versions is only on the **Generic Models, Reference Architecture** and **Reference Architecture Simulator** products. It is important to understand that for the rest of the products only a SIMULUS 10 version is provided, as they are reused for the SIMULUS 11 version.