

DRAMA 3.0.0

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DRAMA 3.0.0 Scope



- First stop for verification of ESA space debris mitigation requirements
 - Provision reference results
 - Indication of what more sophisticated result should entail
- Target mission designers (engineers & operators)
 - Phase O/A (catch risks early)
 - Phase B/C/D/E (support design decisions and operations)
 - Phase F (Enable the interpretation of surveillance data)
- Catering to the procedural user vis-à-vis a creative user

DRAMA 3.0.0 Scope





ARES

Assessment of Risk Event Statistics:

Analyze requirements for collision avoidance manoeuvres expected for a mission.



MIDAS

MASTER (-based) Impact Flux and Damage Assessment Software: Modeling of the collision flux and damage statistics for a mission.



OSCAR

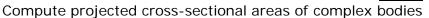
Orbital Spacecraft Active Removal:

Analyze disposal scenarios and assess compliance with mitigation requirements.





CROC





SARA

Spacecraft Entry Survival Analysis Module (SESAM): Modeling the re-entry. Spacecraft Entry Risk Analysis Module (SERAM): Assessing on-ground risks of objects surviving re-entry.

DRAMA 3.0.0 Scope



Major upgrades include:

- Integrating new MASTER 8 functionality in MIDAS & ARES
- Upgrading ARES based on up-to-date space surveillance statistics
- Introducing python wrapper around all tools
- Redesigning the SARA module for evolving needs























Licence (DRAMA and MASTER)



On request single user licence after approval for specific use 2005:

2014: Worldwide distribution (minus sanctioned countries and embargoed countries), for use on ones own space mission.

2015: Registration and distribution of software automated via a web portal; user support provided.

2019: Worldwide distribution (minus sanctioned countries and embargoed countries).























Roadmap



ESA's commitment to transparency and advancement in the field of space debris mitigation implied:

- Publication of detailed implementation standards/guidelines
- Allowing unrestricted access to tools in support there of

Next steps:

- Open source DRAMA code (permissive, referenced, central governed master)
- User and developer community development
- Development or adoption of data exchange formats between tools

























European Space Agency

Roadmap (short term)



- Release version available at https://sdup.esoc.esa.int
- The audience is welcome to test features in real-time

https://sdup.esoc.esa.int/drama/known-issues

Bring together regulator, implementer, and validator

























