**Post, Mark and Souvannavong, Fabrice and Govinderaj, Shashank and Gancet, Jeremi and Bissonnette, Vincent and Dominguez, Raul and Lacroix, Simon and Smisek, Michal and Hidalgo-Carrio, Javier and Wehbe, Bilal and Fabisch, Alexander and De Maio, Andrea and Oumer, Nassir and Bissonnette, Vincent and Marton, Zoltan-Csaba and Kottath, Sandeep and Nissler, Christian and Yan, Xiu and Triebel, Rudolph and Nuzzolo, Francesco (2017) InFuse : infusing perception and data fusion into space robotics with open building blocks. In: 14th International Conference on Informatics in Control, Automation and Robotics, 2017-07-26 - 2017-07-28. ,**

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# INFUSE

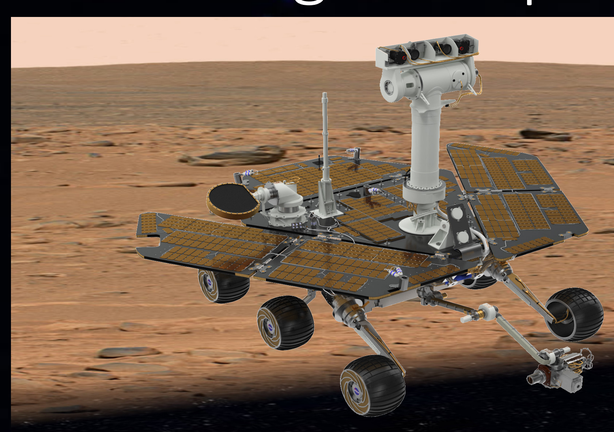
www.h2020-infuse.eu

HORIZON 2020

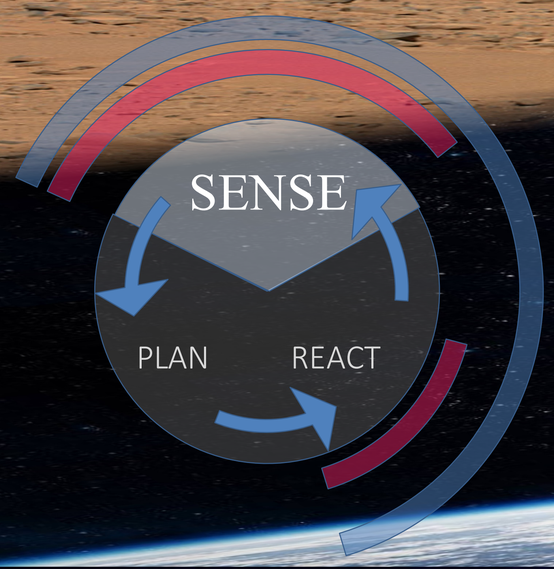
PERASPERA

PERASPERA:Space Robotics Technologies

## Infusing Perception and Data Fusion into Space Robotics with Open Modules



Planetary exploration




On orbit servicing

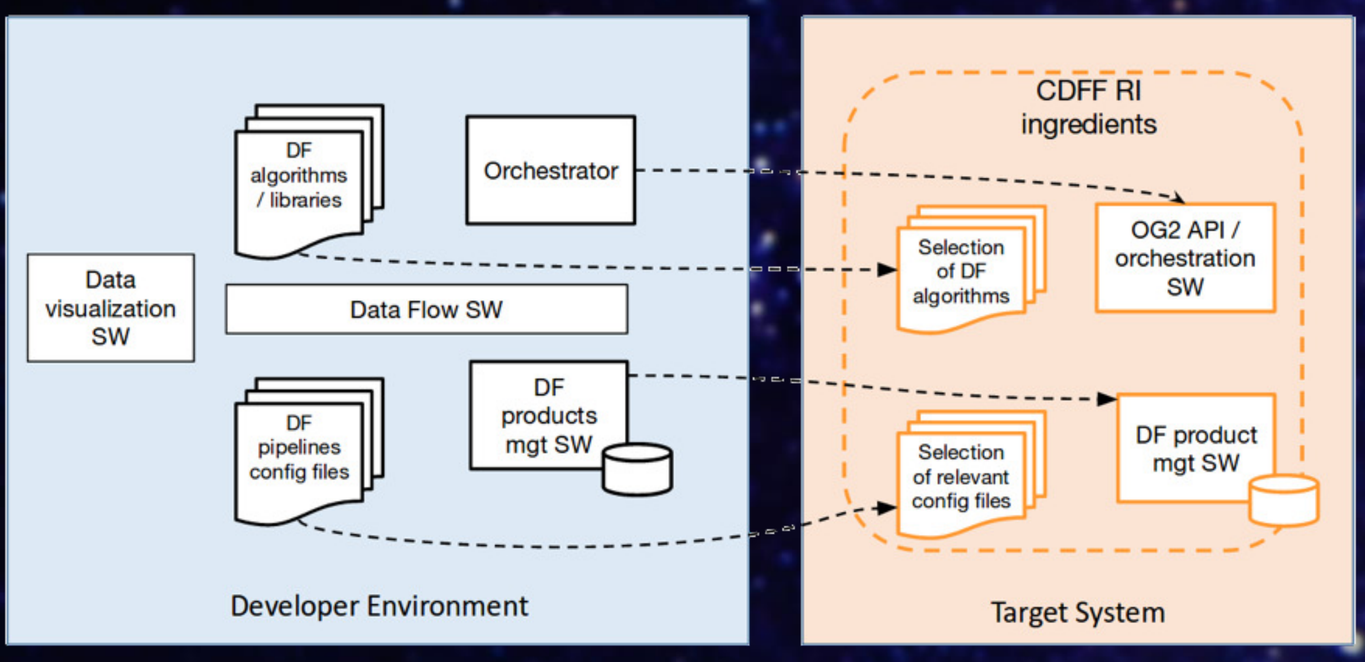
InFuse is a modular, portable and robust Common Data Fusion Framework (CDFF) for robotics applications in space environments. It addresses:

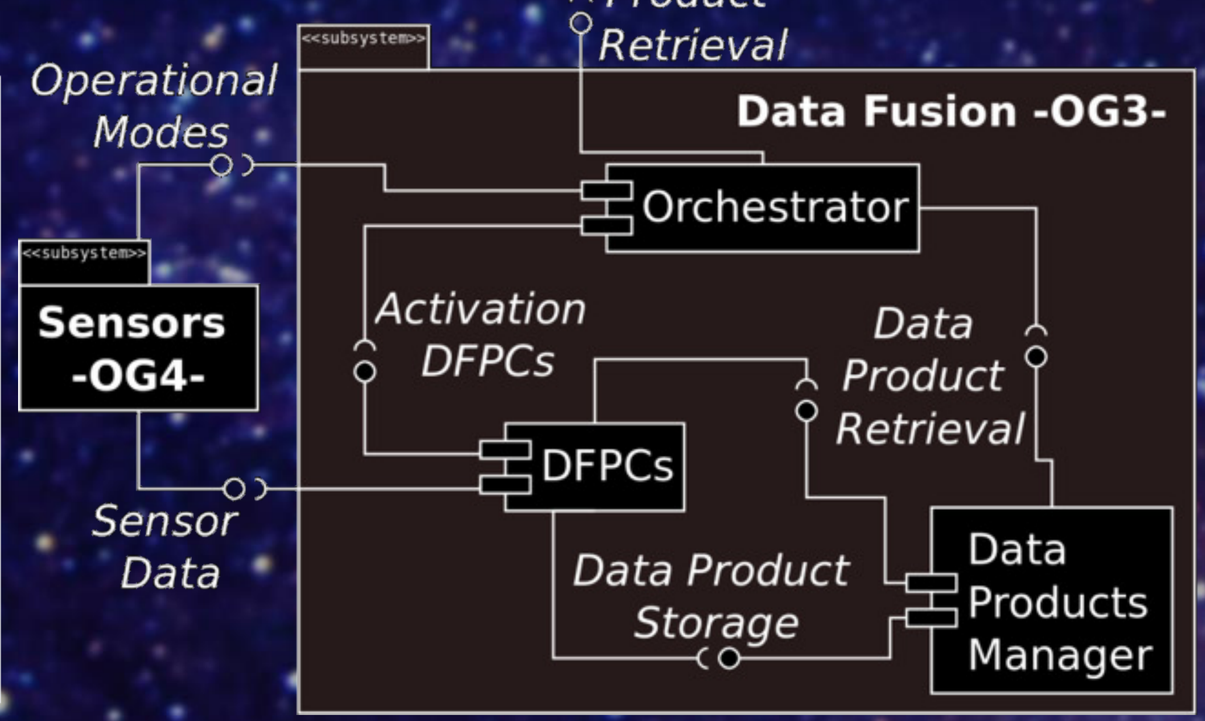
- All stages of data fusion from data to models
- Feature extraction to high-level representations
- Space qualified hardware constraints
- Portability across a variety of middlewares

Data Fusion (DF) functions are encapsulated in Data Fusion Nodes (DFNs), which are organized by the Orchestrator component into Data Fusion Processing Compounds (DFPCs). These provide data via a Data Fusion Product Management component. Additional components provide debugging, visualization, and middleware support.

InFuse provides dynamic interfaces between sensors and autonomy planning systems.

Multiple data fusion methods are available for each sensor and product.




InFuse is funded under the H2020 PERASPERA SRC in Space Robotics and will be released fully Open Source for community use with TASTE. Updates will provide compatibility with future projects and scenarios.

Contact : mark.post@strath.ac.uk

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