



Developing the Maturity Matrix

ESA EDAP Project Activities

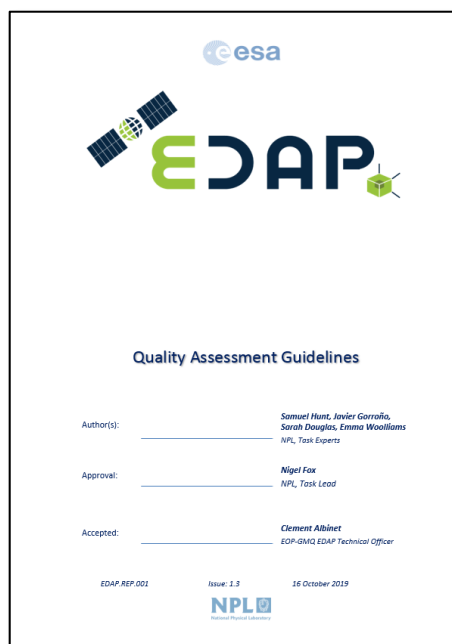


- To perform an **Early Data Assessment on various existing, new and future EO missions** that fall into one of the following instrument domains:
 - Very High Resolution (**VHR**), High Resolution (**HR**) and Medium Resolution (**MR**) Optical
 - Low Resolution (**LR**) Optical
 - Synthetic Aperture Radar (**SAR**)
 - Atmospheric
- To undertake specific **multi-mission studies**, which contribute to interoperability across existing and future missions and help foster synergies between these missions.
- To provide support for the **organisation of ESA Workshops** that focus on data quality assessment of different types and groups of EO mission sensors, with the aim to provide a forum for assessing and discussing the data quality of existing and future TPMs
- Provide a focus on the generation of methodologies and guidelines for training and **capacity building**, with the relevant Mission / Data Providers, particularly for the commercial missions with regards to efficient data quality assessments in the preparation for future missions.

Current Implemented Matrix

Maturity matrix framework developed to be basis of quality assessments, based on previous European projects.

Guidelines prepared to describe generic assessment criteria per matrix cell.



Product Information	Product Generation	Ancillary Information	Uncertainty Characterisation	Validation
Product Details	Sensor Calibration & Characterisation Pre-Flight	Product Flags	Uncertainty Characterisation Method	Reference Data Representativeness
Availability & Accessibility	Sensor Calibration & Characterisation Post-Launch	Ancillary Data	Uncertainty Sources Included	Reference Data Quality
Product Format	Retrieval Algorithm Method		Uncertainty Values Provided	Validation Method
User Documentation	Retrieval Algorithm Tuning		Geolocation Uncertainty	Validation Results
Metrological Traceability Documentation	Additional Processing			

Development of Matrix

Iterated design based on EDAP project experience and feedback from NASA and ESA

Make clearer regarding which part is documentation review and what is validation

Data Provider Documentation Review		
Product Information	Metrology	Product Generation
Product Details	Sensor Calibration & Characterisation Pre-Flight	Calibration Algorithm
Availability & Accessibility	Sensor Calibration & Characterisation Post-Launch	Retrieval Algorithm
Product Format, Flags & Metadata	Metrological Traceability Documentation	Additional Processing
User Documentation	Uncertainty Characterisation	Ancillary Data

Review section simplified

Data Provider Validation			
Radiometric		Geometric	
Absolute Calibration Method	Absolute Calibration Results	Sensor Spatial Response Method	Sensor Spatial Response Results
Signal to Noise Method	Signal to Noise Results	Absolute Positional Accuracy Method	Absolute Positional Accuracy Results
Temporal Stability Method	Temporal Stability Results	Band-to-Band Registration Method	Band-to-Band Registration Results
		Temporal Stability Method	Temporal Stability Results

Validation section should be more detailed

Extra Validation Sections



Performed by data provider

Performed by EDAP etc

Data Provider Documentation Review		
Product Information	Metrology	Product Generation
Product Details	Sensor Calibration & Characterisation Pre-Flight	Calibration Algorithm
Availability & Accessibility	Sensor Calibration & Characterisation Post-Launch	Retrieval Algorithm
Product Format, Flags & Metadata	Metrological Traceability Documentation	Additional Processing
User Documentation	Uncertainty Characterisation	Ancillary Data

Data Provider Validation			
Radiometric		Radiometric	
Absolute Calibration Method	Absolute Calibration Results	Sensor Spatial Response Method	Sensor Spatial Response Results
Signal to Noise Method	Signal to Noise Results	Absolute Positional Accuracy Method	Absolute Positional Accuracy Results
Temporal Stability Method	Temporal Stability Results	Band-to-Band Registration Method	Band-to-Band Registration Results
		Temporal Stability Method	Temporal Stability Results

Independent Validation			
Radiometric		Geometric	
Absolute Calibration Method	Absolute Calibration Results	Sensor Spatial Response Method	Sensor Spatial Response Results
Signal to Noise Method	Signal to Noise Results	Absolute Positional Accuracy Method	Absolute Positional Accuracy Results
Temporal Stability Method	Temporal Stability Results	Band-to-Band Registration Method	Band-to-Band Registration Results
		Temporal Stability Method	Temporal Stability Results

Users might want to see mission and independent validation separately?

Separate detailed validation from a summary, for different levels of expertise

Data Provider Documentation Review			Validation Summary
Product Information	Metrology	Product Generation	
Product Details	Sensor Calibration & Characterisation Pre-Flight	Calibration Algorithm	
Availability & Accessibility	Sensor Calibration & Characterisation Post-Launch	Retrieval Algorithm	
Product Format, Flags & Metadata	Metrological Traceability Documentation	Additional Processing	
User Documentation	Uncertainty Characterisation	Ancillary Data	Geometric Results



Data Provider Detailed Validation			
Radiometric		Radiometric	
Absolute Calibration Method	Absolute Calibration Results	Sensor Spatial Response Method	Sensor Spatial Response Results
Signal to Noise Method	Signal to Noise Results	Absolute Positional Accuracy Method	Absolute Positional Accuracy Results
Temporal Stability Method	Temporal Stability Results	Band-to-Band Registration Method	Band-to-Band Registration Results
		Temporal Stability Method	Temporal Stability Results

Independent Detailed Validation			
Radiometric		Geometric	
Absolute Calibration Method	Absolute Calibration Results	Sensor Spatial Response Method	Sensor Spatial Response Results
Signal to Noise Method	Signal to Noise Results	Absolute Positional Accuracy Method	Absolute Positional Accuracy Results
Temporal Stability Method	Temporal Stability Results	Band-to-Band Registration Method	Band-to-Band Registration Results
		Temporal Stability Method	Temporal Stability Results