

Requirements Traceability Matrix

Company C

TERMA Case

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1.0	HY, JM, AM, LU, TSL, MT, VNV, MM, JCJ, JAN	11-03-2020	Initial document
2.0	HY, JM, AM, LU, TSL, MT, VNV, MM, JCJ, JAN	18-03-2020	Updated requirements, Breakdown of requirements

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1. Scope

The scope of this document is the the requirements traceability matrix regarding the system requirements specified in the System Requirements Specification (SRS) document in relation to the original requirements from the Technical Requirements Document for the Updated Reconnaissance Pod (TRD) document.

2. Referenced documents

Ref.	Doc. No.	Title
[SOW]	1034832-SO	Statement of Work for the Updated Reconnaissance Pod
[TRD]	1034832-DC	Technical Requirements Document for the Updated Reconnaissance Pod

3. Requirements Traceability Matrix

Project name:		Updated Reconnaissance Pod	Business Area:					
Project manager:			Business Analysts lead:					
QA lead:			Target implementation date:					
Req.id.	Category or functional activity	Requirement description	Use case reference	Design document reference	Code or module reference	Test case reference	User acceptance validation	Comments
SLR-143	System capability	The pod shall be able to acquire images of targets and areas on the ground.		R01				
SR-01	System capability	The imagery sensors shall be mounted facing down.		R02				
SLR-183	System capability	The pod shall be able to acquire electro-optical images with a footprint of 600x600 m and a ground resolution distance of less than 10 cm while flying at an altitude of 10 kft at a ground speed of 400 knots.		R03				

SR-02	System capability	The pod will have a wide glass window under the camera chamber to capture a footprint of 600x600m.		R04				
SR-03	System capability	The pod will read the data stream from the aircraft and calculate image capturing intervals from speed and altitude.		R05				
SLR-152	System capability	The pod shall be able to acquire electro-optical images of an area with a size 6 km wide and 60 km long in a single flyover at an altitude of 15 kft at a ground speed of 350 knots without image overlap.		R06				
SLR-182	System capability	The pod shall be able to acquire electro-optical images of an area with a size 6 km wide and 60 km long in a single flyover at an altitude of 15 kft at a ground speed of 350 knots with an image overlap of 55% in the line of flight.		R07				
SLR-158	System capability	The pod shall be able to georeference the imagery with an absolute precision better than 1 m (1 standard deviation).		R08				
SR-04	System capability	The pod will have a Georeference handler to get absolute precision of image georeference.		R09				
SLR-164	System capability	The pod shall support air-to-air mode, where forward motion-compensation is disabled.		R10				
SLR-165	System capability	The pod shall be able to adjust the image acquisition to account for the terrain height, given a digital elevation model of the Earth.		R11				
SLR-176	External interface requirement	The pod shall run on the 115V 400Hz AC power available from the aircraft		R12				
SR-05	External interface requirement	The pod shall have a power connector that will be connected to the aircraft interface.		R13				
SLR-167	External interface requirement	The pod shall obtain live flight information from the aircraft via its MIL-STD 1553 bus.		R14				
SR-06	External interface requirement	The pod will have MIL-STD 1553 Interface Handler		R15				
SLR-178	External interface requirement	The pod shall react properly to the "power-on" signal available as a 28 V discrete signal from the aircraft.		R16				

SR-07	External interface requirement	The pod will have an Analog Interface Handler to react to “power-on” signals.		R17				
SLR-179	External interface requirement	The pod shall react properly to the “zeroize” signal available as a 28 V discrete signal from the aircraft.		R18				
SR-08	External interface requirement	The pod will have an Analog Interface Handler to react to “power-on” signals.		R19				
SLR-180	External interface requirement	The pod shall output live sensor data as RS-170 standard video.		R20				
SR-09	External interface requirement	The Pod interface connector will include live sensor data stream as RS-170 standard video.		R21				
SLR-177	Internal interface requirement	The pod shall have a power consumption less than 6700 Watt.		R22				
SLR-168	Internal data requirement	The pod shall include relevant flight information as metadata in the imagery.		R23				
SR-10	Internal data requirement	The Recording software will read data streams from the aircraft interface and stamp the metadata on image capture.		R24				
SLR-155	Safety requirement	The pod shall be safe to operate and maintain, meaning that all safety risks shall have a Risk Assessment Code less than “Medium” according to MIL-STD 882.		R25				
SR-11	Safety requirement	The components and connection of the URP will be able to operate under the vibrations and disturbances during flight.		R26				
SLR-173	Safety requirement	The transportation dolly shall be safe to operate and maintain, meaning that all safety risks shall have a Risk Assessment Code less than “Medium” according to MIL-STD 882.		R27				
SLR-153	Security and privacy requirement	The pod shall be able to destroy all stored data in accordance with AEDP-03, Sanitization Level #2 “Purge” upon receiving a zeroize command.		R28				
SR-12	Security and privacy requirement	The pod will have Analog Interface Handler to check for the zeroize command to destroy all stored data.		R29				
SLR-181	System environment requirement	The pod shall ensure that the temperature around the camera does not change at a rate higher than +/- 3 degrees Celsius per hour in order to		R30				

		avoid condensation when climbing from 0 to 10,000 ft with a climb rate of 50,000 ft/min.						
SR-13	System environment requirement	A temperature sensor will be installed in the camera chamber.		R31				
SR-14	System environment requirement	The sensor readings will be used to direct the airflow to the camera chamber to maintain Temperature.		R32				
SLR-162	System environment requirement	The pod shall be able to sustain the shock and vibration loads present during flight, mounting and transportation. This requirement will be handled by Terma through Finite Element modeling.		R33				
SLR-163	System environment requirement	The pod shall be able to operate under the climatic conditions ranging from "A2 - Hot Dry" to "C2 - Cold" for deployment on aircraft defined in AECTP-230.		R34				
SR-15	System environment requirement	The Design of the pod will include a controlled airflow inside, that will maintain the operating temperature.		R35				
SLR-174	System environment requirement	The transportation dolly shall be able to operate under the climatic conditions ranging from "A2 - Hot Dry" to "C2 - Cold" defined in AECTP-230.		R36				
SR-16	System environment requirement	The cushioning material on the transportation dolly will be able to operate and maintain properties under the climatic conditions ranging from "A2 - Hot Dry" to "C2 - Cold".		R37				
SR-17	System environment requirement	The transportation dolly wheels should be able to operate under the climatic conditions ranging from "A2 - Hot Dry" to "C2 - Cold".		R38				
SR-18	System environment requirement	The transportation dolly lift will be able to operate under the climatic conditions ranging from "A2 - Hot Dry" to "C2 - Cold".		R39				
SLR-149	Computer resource requirement	The pod shall be able to store up to 10,000 images on-board.		R40				
SLR-160	Computer resource requirement	The pod should be able to store up to 100,000 images on-board.		R41				
SR-19	Computer resource requirement	The pod will include Flash Storage Unit able to store up to 100,000 images.		R42				

SLR-143	Design and construction constraints	The pod shall be center-mountable on the Royal Danish Air Force (RDAF) F-16 AM/BM fighter aircrafts in version M6.5.		R43				
SR-20	Design and construction constraints	The transportation dolly will be able to fit under RDAF F-16 with the URP mounted on the plane, or carried on the dolly.		R44				
SR-21	Design and construction constraints	The mounting interface on the URP shall support a weight of 700 pounds.		R45				
SLR-144	Design and construction constraints	The pod shall have a mass less than 700 pounds in total.		R46				
SLR-146	Design and construction constraints	The pod shall have a geometric cross-section of 0.40 m2 or less as seen from the front.		R47				
SLR-159	Design and construction constraints	The pod should have a geometric cross-section of 0.25m2 or less as seen from the front.		R48				
SR-22	Design and construction constraints	The pod Should have a geometric cross-section of 0.25 m2 or less as seen from the front.		R49				
SLR-147	Design and construction constraints	The pod shall be equipped with an electro-optical sensor.		R50				
SLR-150	Design and construction constraints	The pod shall be equipped with at least one of the following sensors: - XTS-365-18+IR - CA-265-12+IR		R51				
SLR-170	Logistics-related requirement	The transportation dolly shall be able carry the weight of the SLR.		R52				
SR-23	Logistics-related requirement	The transportation dolly will be able to carry at least 700 pounds.		R53				
SR-24	Logistics-related requirement	The wheels should be able to support at least 700 pounds and absorb road bumps.		R54				
SLR-171	Logistics-related requirement	The transportation dolly loaded with a SLR shall be operable by a single person.		R55				
SR-25	Logistics-related requirement	The transportation dolly will have an interface on the back left side.		R56				
SR-26	Logistics-related requirement	The transportation dolly interface will have the lift controls and the release button.		R57				

SLR-172	Logistics-related requirement	The transportation dolly shall be able to lift and lower a SLR for mount and dismounting on a F-16 (both when the aircraft is empty and when it is fully loaded).		R58				
SR-26	Logistics-related requirement	The transportation dolly will be mounted with a hydraulic lift able to lift at least 700 pounds.		R59				
SR-27	Logistics-related requirement	The transportation dolly will draw power from the transportation truck.		R60				
SR-28	Logistics-related requirement	The transportation dolly will be equipped with a scissor lift.		R61				

4. Relations

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