



## SPECIFIKACIJE PONUJENEGA PREDMETA NAROČILA

Ponudnik v nadaljevanju izpolni spodnjo tabelo. Ponudnik v stolpcu »Ponujene tehnične specifikacije« označi »da« ali »ne« oziroma označi možnosti, ki jih ponuja, oziroma navede vrednosti, kjer je to predvideno.

V primeru, če naročnik ugotovi, da je ponudnik v spodnji tabeli navajal neresnične podatke, pri tem pa ponujena oprema teh lastnosti nima, ima naročnik pravico ponudbo zavrniti kot tehnično neustrezno oziroma kasneje ob izvajanju pogodbenih obveznosti razveljaviti pogodbo.

V tabeli se nahajajo tudi tehnične zahteve, ki nimajo izločitvenega pomena, kar pomeni, da ponujena oprema, ki nima teh lastnosti, jo naročnik ne bo označil kot tehnično neustrezno oziroma neprimerno. Tehnične zahteve, ki nimajo izločitvenega pomena, so v spodnji tabeli označene kot »optional technical characteristic«.

Podatki, ki jih ponudnik navede pri tistih tehničnih zahtevah, pri katerih je v drugem stolpcu v spodnji tabeli navedeno »selection criteria«, se upoštevajo pri merilih za oddajo ponudbe (merilo »Kvaliteta radarske opreme («Q»)).

Ponudnik mora predložiti tudi tehnično dokumentacijo, iz katere bo razvidno, da:

- določena ponujena tehnična lastnost v celoti ustreza naročnikovim zahtevam navedenim v spodnji tabeli (če je stolpcu »Ponujene tehnične specifikacije« za določeno tehnično zahtevo označil »da«);
- ustreza podatku, ki ga je navedel v spodnji tabeli v stolpcu »Ponujene tehnične specifikacije«;
- ustreza tehnični lastnosti, ki jo je v spodnji tabeli v stolpcu »Ponujene tehnične specifikacije« označil, da jo ponuja.

Ponudnik mora predložiti tehnično dokumentacijo samo v tistih primerih oziroma za tiste tehnične zahteve, za katere je v spodnji tabeli v stolpcu »Dokumentacija, ki potrjuje skladnost« naveden »D«. Ponudnik mora v zadnji stolpec navesti, v kateri tehnični dokumentaciji in na kateri strani se zahtevana informacija nahaja. V primeru, da se pri posamezni zahtevi zahteva predložitev točno določenega dokumenta, je to v stolpcu »Dokumentacija, ki potrjuje skladnost« izrecno navedeno.

*The Tenderer is to fill the table below. In the column "Offered technical characteristics" the Tenderer is to mark "yes" or "no" or mark the options he offers or enter values where required.*

*If the Contracting Authority finds that the Tenderer has provided false information in the table below and the offered equipment does not have these characteristics, the Contracting Authority has the right to reject the offer as technically unsuitable or to cancel the contract later during the performance of contractual obligations.*

*The table also contains technical requirements that are not of a nature to exclude a Tenderer, which means that the Contracting Authority will not consider equipment that does not have these characteristics to be technically unsuitable or inappropriate. Technical requirements that are not of decisive importance are marked as "optional technical characteristic" in the table below.*



The information provided by the Tenderer for those technical requirements for which "selection criteria" is indicated in the second column of the table below will be taken into account in the award criteria (criterion »Kvaliteta radarske opreme (Q)«).

The Tenderer must also submit technical documentation showing that:

- the offered technical characteristic fully complies with the Contracting Authority's requirements set out in the table below (if "yes" is marked in the "Offered technical characteristic" column for a particular technical requirement);
- it complies with the information provided in the column "Offered technical characteristics" in the table below;
- it complies with the technical characteristics that the Tenderer has marked as offered in the column "Offered technical characteristics" in the table below.

The Tenderer must submit technical documentation only in those cases or for those technical requirements for which "D" is indicated in the column "Documentation confirming compliance" in the table below. The Tenderer must indicate in the last column in which technical documentation and on which page the required information can be found. If a specific document is required for an individual requirement, this is explicitly stated in the column "Documentation confirming compliance".

Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
<b><u>Dobava, namestitev in operativni zagon novega vremenskega radarja na MRC Lisca</u></b> (Supply, installation and operational launch of the new weather radar at MRC Lisca)				
<b>Group 1 (MRC Lisca)</b>		<b>Requirements for the new radar at the Lisca site</b>		
<b>Introductory requirements</b>				
1.	<b>Radar type</b> (reference: point 1.1.1 in the table of the document titled Technical Specifications)	The radar shall be a C-band Doppler polarimetric weather radar operating at least in a frequency subband of 5.60 – 5.65 GHz.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
2.	<b>Polarimetric operation</b> (reference: point 1.1.2 in the table of the document titled Technical Specifications)	The radar system shall be a polarimetric radar, operating in Simultaneous Transmission and Reception (STAR) and Linear Depolarization Ratio (LDR) modes.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
3.	<b>Transmitter</b> (reference: point 1.1.3 in the table of the document titled Technical Specifications)	The radar shall have an SSPA transmitter.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
4.	<b>Antenna-mounted transceiver</b> (reference: point 1.1.4 in the table of the document titled Technical Specifications)	The radar system except the RDA computer shall be installed at the back of antenna reflector (antenna-mounted transceiver). No separate radar cabinet shall be applied for radar components.  The optical cable of approximate 25 meters length between the radar system and the RDA computer shall be of single-mode type. An optional junction box needed shall be wall-mounted in proximity of the above-mentioned rack.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
5.	<b>Site installation requirements</b> (reference: point 1.1.7 in the table of the document titled Technical Specifications)	Radar site installation requirements: <ul style="list-style-type: none"> <li>The radar site shall comprise the radar together with its related processor hardware and software, allowing complete remote control and surveillance of the radar from an authorized computer at the central Contracting Authority's facilities</li> <li>The radar system shall be compact and suitable for crane lifting.</li> <li>The radar system shall be equipped with an integrated cooling system.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
6.	<b>Total weight of radome and internal equipment</b> (reference: point 1.1.8 in the table of the document titled Technical Specifications)	The entire weight of radome (incl. lightning rods and wires) and radar system installed on the radar platform (at the top of the tower) shall not exceed 3000 kg, including air condition of the radome interior.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
7.	<b>Radar cooling</b> (reference: point 1.1.9 in the table of the document titled <i>Technical Specifications</i> )	The radar system (transceiver) shall be equipped with an integrated cooling system.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
<b>General requirements</b>				
8.	<b>State of the art</b> (reference: point 1.2.1 in the table of the document titled <i>Technical Specifications</i> )	The radar system shall be brand new. The provided hardware equipment shall be new and should be manufactured from serial production. No refurbished nor used components shall be allowed and used in the system. The equipment shall be robustly designed. Ratings of all components used must fulfill the requirements stated in the document <i>Technical Specifications</i> .	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
9.	<b>System architecture</b> (reference: point 1.2.2 in the table of the document titled <i>Technical Specifications</i> )	All sub-systems shall integrate with each other to form a complete functional system (hardware and software).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
10.	<b>24/7/365 operation design</b> (reference: point 1.2.3 in the table of the document titled <i>Technical Specifications</i> )	The normal mode of radar operation should be in unmanned independent continuous (24/7/365) regime, remotely operated and controlled. The radar system must be designed to continuously perform full radar volume measurements (at least 16 elevations) per 5 minutes.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
11.	<b>Power supply</b> (reference: point 1.2.5 in the table of the document titled Technical Specifications)	The radar system shall operate at single-phase (230 VAC +/-10%) or three-phase (400 VAC +/-10%) mains supply at 50-60 Hz +/- 5 %.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
12.	<b>Radome climate conditions</b> (reference: point 1.2.8 in the table of the document titled Technical Specifications)	The radar equipment within the radome shall operate within the temperature range at least between -30°C to + 55°C and rel. humidity at least 95 %.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
13.	<b>Power consumption</b> (reference: point 1.2.9 in the table of the document titled Technical Specifications)	The biggest acceptable maximum load is 6.5 kW.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
14.	<b>Emergency interlocks</b> (reference: point 1.2.10 in the table of the document titled Technical Specifications)	At least two emergency interlocks shall be installed.  One interlock shall be installed in the IT room in proximity of the RDA computer rack or adjacent junction box in order to support various maintenance and repair activities.  The 2nd interlock shall be installed inside radome in an easily accessible way. When activated, it shall require user interaction to apply power to the WR again and to re-arm the emergency shutdown.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
15.	<b>Lightning and surge protection</b> (reference: point 1.2.11 in the table of the document titled Technical Specifications)	The lightning and surge protection shall be used on and between the various units. Over-voltage protection shall be provided on all IO lines for each subsystem.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
	Technical Specifications)			
16.	<b>Automatic system start after complete power failure</b> (reference: point 1.2.12 in the table of the document titled Technical Specifications)	Automatic start-up capability after power recovery is required. The automatic startup of the radar system must not require any manual intervention on the radar system. At system power-up start, all configuration and control signals shall be in predefined states. The scheduled radar measurements shall start automatically if configured so.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
17.	<b>Remote reset of radar equipment</b> (reference: point 1.2.13 in the table of the document titled Technical Specifications)	It shall be possible to reset the radar equipment remotely through TCP/IP connection.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
18.	<b>Language support</b> (reference: point 1.2.14 in the table of the document titled Technical Specifications)	All menus, labels and available on-line help-assistance in the complete radar system must be in English.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
Group 2 (MRC Lisca)		Radome, pedestal and waveguides		
Radome				
19.	<b>Radome general requirements</b> (reference: point 2.1.1 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"><li>The antenna reflector, pedestal and antenna-mounted transceiver shall be installed inside radome</li><li>The radom shall be compact and suitable for crane lifting</li></ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
20.	<b>Radome dimensions</b> (reference: point 2.1.2 in the table of the document titled Technical Specifications)	The radome diameter shall not exceed 6.7 m. The radome base diameter shall not exceed 4.7 m.	radome diameter [m]:  radome base diameter [m]:	D
21.	<b>Radome panels and color</b> (reference: point 2.1.3 in the table of the document titled Technical Specifications)	The radome shall be a quasi random panel type in order to provide homogeneous electromagnetic performance in regard to polarimetric operation. The radome color shall be white.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
22.	<b>Ice and snow load</b> (reference: point 2.1.4 in the table of the document titled Technical Specifications)	The radome shall withstand snow and ice load up to at least 350 kg/m <sup>2</sup> .	snow and ice load [kg/m <sup>2</sup> ]:	D
23.	<b>Radar equipment inside radome</b> (reference: point 2.1.5 in the table of the document titled Technical Specifications)	The IP class shall be IP42 or better for all installed radar equipment inside radome (including pedestal and transceiver).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
24.	<b>Two-way radome signal loss</b> (reference: point 2.1.6 in the table of the document titled Technical Specifications)	Two-way signal loss in dry conditions shall not exceed 0.4 dB.	two-way signal_loss [dB]:	D





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
25.	<b>Lightning protection</b> (reference: point 2.1.7 in the table of the document titled Technical Specifications)	<p>The radome shall include a suitable lightning protection system.</p> <p>One lightning rod must be mounted at the top of radome (length minimum 1 m). Additional at least 4 lightning rods (length minimum 0.6 m) equally spaced around the circumference of the radome making an angle of 45° with the radome center axis. Equivalent solutions are also acceptable.</p> <p>These lightning rods shall be interconnected together with a ring shaped equalizer conductor. All conductors shall be installed inside the radome. The down-conductors shall be installed with the shortest possible path following contours of radome panels as much as possible.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
26.	<b>Aviation obstruction light</b> (reference: point 2.1.8 in the table of the document titled Technical Specifications)	<p>A double aviation obstruction light shall be provided on the top of radome with an automatic day/night switch and high voltage lightning protection for the power input of the light system. It shall be possible to set the light into both continuous or blinking operation.</p> <p>The proposed aviation obstruction light system shall fulfill ICAO recommendations.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
27.	<b>Roof hatch</b> (reference: point 2.1.9 in the table of the document titled Technical Specifications)	<p>A suitable roof hatch or removable section of radome shall be installed at the radome top for maintenance of the aviation obstruction light and the lightning system.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
28.	<b>Interlock switch at entry hatch</b> (reference: point 2.1.10 in the table of the document titled Technical Specifications)	<p>The radome entry hatch shall be equipped with an interlock switch to disable radiation and antenna motion when opened. It shall be possible to override the switch operation.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
29.	<b>Other requirements for radome</b> (reference: point 2.1.11 in the table of the document titled Technical Specifications)	The radome shall be hydrophobic, dust and waterproof.  The radome shall withstand outdoor temperature range at least within -50 - +70°C and wind speed up to 66 m/s	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
<b>Antenna reflector</b>				
30.	<b>Reflector dimensions</b> (reference: point 2.2.1 in the table of the document titled Technical Specifications)	Antenna parabolic reflector shall have the diameter between 4.0 m and 4.7 m.	antenna parabolic reflector diameter [m]:	D
31.	<b>Antenna beam width</b> (reference: point 2.2.2 in the table of the document titled Technical Specifications)	The antenna reflector shall facilitate radiating in a maximum 1.0°-wide main beam (pencil-beam shape) at 5.6 GHz band.	beam_width [°]:	D
32.	<b>Antenna gain</b> (reference: point 2.2.3 in the table of the document titled Technical Specifications)	The antenna gain is required to be at least 45 dBi at transmitter 5.6 GHz frequency band.	antenna_gain [dBi]:	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
33.	<b>Sidelobes closer than 2.5° from the main beam</b> (reference: point 2.2.4 in the table of the document titled <i>Technical Specifications</i> )	The side lobe levels in both principle polarization planes are required to be below -28 dB in the angular range closer than 2.5° from the center of the main beam.	side lobe levels [dB]:  angular range [°]:	D
34.	<b>Sidelobes farther than 5.0° from the main beam</b> (reference: point 2.2.5 in the table of the document titled <i>Technical Specifications</i> )	The side lobes level at principle polarization planes (horizontal and vertical), from 5.0° and farther from the center of the main beam are required to be below -40 dB. Additionally, side lobes envelope within the intermediate range between 2.5°- 5.0° must be decreasing in value.	side lobe levels [dB]:  angular range [°]:	D
35.	<b>Cross-polarization isolation</b> (reference: point 2.2.6 in the table of the document titled <i>Technical Specifications</i> )	The integrated cross-polarization isolation shall be better than -35 dB.	cross-polarization isolation [°]:	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
36.	Other antenna requirements (reference: point 2.2.7 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"><li>The antenna gain difference between both principle polarization planes (H and V) shall be less than 0.3 dB.</li><li>The maximum squint angle between both principle polarization planes main beams shall be maximum 0.1°</li></ul>	antenna gain difference [dB]:  maximum squint angle [°]:	D
Pedestal				
37.	Azimuth and elevation range (reference: point 2.3.1 in the table of the document titled Technical Specifications)	The antenna pedestal shall be capable of operation in the range of elevations at least from -2° to +100° and in full 360° azimuth range, clockwise (CW) and counterclockwise (CCW).	minimum elevation [°]:  maximum elevation [°]:	D
38.	Antenna angular positioning precision (reference: point 2.3.2 in the table of the document titled Technical Specifications)	Angular positioning precision for both elevation and azimuth at any rotation rate within nominal range shall be at least 0.05° in the whole range of climatic conditions given by the Tenderer.	angular precision [°]:	D
	selection criteria			
39.	Antenna steering (reference: point 2.3.3 in the table of the document titled Technical Specifications)	Antenna pedestal shall be able to steer the antenna reflector with the following parameters: <ul style="list-style-type: none"><li>a) maximum operational azimuthal rotation rate shall reach at least 40°/s</li><li>b) maximum azimuthal rotation acceleration rate shall reach at least 20°/s²</li><li>c) the step response time for 2° position change shall not exceed 1.5 seconds</li></ul>	a) maximum operational azimuthal rotation rate [°/s]:  b) maximum azimuthal rotation acceleration rate [°/s]:  c) step response time [s]:	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
		The Contracting Authority intends to operate antenna regularly with azimuthal rotation rate of 40°/s at higher elevations for wind-optimized sub-scans.		
40.	<b>Pedestal maintenance requirements</b> (reference: point 2.3.4 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>The mechanical drive system shall be designed for minimal maintenance requirements, including the application of digital servo units, brushless AC motors, optical encoders and brushless slip rings (or equivalent).</li> <li>Motors, gearboxes, driving belts and other replaceable components shall be easily accessible for repair/replacement, without lifting the antenna or the radome.</li> <li>The azimuth and elevation drives shall not require oil change nor frequent manual greasing.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
<b>Waveguides</b>				
41.	<b>Waveguide requirements</b> (reference: point 2.4.1 in the table of the document titled <i>Technical Specifications</i> )	Waveguide structure must be without rotary joints.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
42.	<b>Internal atmosphere</b> (reference: point 2.4.3 in the table of the document titled <i>Technical Specifications</i> )	The waveguide's internal atmosphere shall have controlled pressure and humidity levels for prevention of condensation and arcing.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
43.	<b>Standing Wave Ratio</b> (reference: point 2.4.4 in the table of the document titled Technical Specifications)	The waveguide design shall result in low Standing Wave Ratio (SWR). It shall be able to tune the SWR as low as possible, at least below 1.2 : 1.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
44.	<b>TR limiters</b> (reference: point 2.4.5 in the table of the document titled Technical Specifications)	The TR limiters shall not contain any radioactive substances.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
<b>Group 3 (MRC Lisca)</b>		<b>Transmitter</b>		
<b>Basic requirements</b>				
45.	<b>Frequency range</b> (reference: point 3.1.1 in the table of the document titled Technical Specifications) selection criteria	The radar transmitter must operate in at least the frequency band of 5.60 – 5.65 GHz.	minimum band [GHz]: maximum band [GHz]:	<b>D</b>
46.	<b>Antenna-mounted transceiver</b> (reference: point 3.1.2 in the table of the document titled Technical Specifications)	Transmitter and receiver (except radar computer) shall be installed at the back of the antenna reflector.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
47.	<b>Transmitter type</b> (reference: point 3.1.3 in the table of the document titled Technical Specifications)	Transmitter must be of SSPA type with at least two separate transmitting modules of the same power per polarization channel, in order to transmit useful power in case of failure of single modules.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
48.	<b>Duty cycle</b> (reference: point 3.1.4 in the table of the document titled Technical Specifications)	The maximum duty cycle available from the transmitter shall be at least 10 %.	maximum duty cycle [%]:	<b>D</b>
49.	<b>Transmitter protection</b> (reference: point 3.1.5 in the table of the document titled Technical Specifications)	The system shall include inherent self-protecting circuits against faults of the transmitter. Further protection is required to prevent duty cycles that are outside of the design limits of the transmitter.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
50.	<b>Transmitter PRF range</b> (reference: point 3.1.6 in the table of the document titled Technical Specifications)	The PRF shall extend from 250 Hz to 2400 Hz at least (while maximum PRF for each pulse length for each PRF is limited by the transmitter duty cycle).	minimum PRF [Hz]:  maximum PRF [Hz]:	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
51.	<b>Transmitter dual-PRF operation</b> (reference: point 3.1.7 in the table of the document titled <i>Technical Specifications</i> )	a) The system shall support radial velocity de-aliasing methods using dual-PRF technique in different ratios of at least 2:3, 3:4, and 4:5, for 2x, 3x and 4x de-aliasing, respectively.  b) The maximum unfolded radial velocity available from the system shall be at least 128 m/s.	a) <input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)  b) maximum unfolded radial velocity ( <i>max velocity</i> ) [m/s]:	<div>D</div>
52.	<b>Coherent mode</b> (reference: point 3.1.8 in the table of the document titled <i>Technical Specifications</i> )	The transmitter and receiver shall operate in a fully coherent mode.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
53.	<b>Transceiver out-of-band emission</b> (reference: point 3.1.9 in the table of the document titled <i>Technical Specifications</i> )	The transceiver shall include the means to minimize both the production and reception of frequencies outside of the main transmitting frequency band.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
<b>SSPA-related requirements</b>				
54.	<b>RF peak power</b> (reference: point 3.2.1 in the table of the document titled <i>Technical Specifications</i> )	The RF peak power at the transmitter output flange shall be within 4 - 5 kW per each H and V polarization channel, respectively.	the RF peak power [kW]:	<div>D</div>





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
55.	<b>RF average power</b> (reference: point 3.2.2 in the table of the document titled Technical Specifications)	The maximum RF average power of long modulated pulses shall be at least 400 W per each H and V polarization channel, respectively.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
56.	<b>Combined pulse measurements</b> (reference: point 3.2.3 in the table of the document titled Technical Specifications)	The transmitter (and receiver) shall be able to operate in combined pulse mode, i.e. transmitting long FM pulses for most of the range and short unmodulated pulses to cover blind range of long pulses. The measurements from long and short pulses shall be combined smoothly to form a single measurement, including the transition zone, at I/Q data level, which is mandatory.  Equivalent solutions are acceptable too. The applied technique must be able to recover the entire blind zone within the antenna far-field zone.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
57.	<b>Reflectivity blending in transition zone</b> (reference: point 3.2.4 in the table of the document titled Technical Specifications)	Maximum discrete reflectivity (dBZH, dBZV) jump in the transition zone between short pulse and long pulse must be better than 1.0 dBZ.	maximum discrete reflectivity jump in the transition zone (dBZh jump) [dBZ]:	D
	selection criteria			



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
58.	<b>Frequency range of short and long pulses</b> <i>(reference: point 3.2.5 in the table of the document titled Technical Specifications)</i>	The precise frequency range of short and long pulse shall not overlap.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
59.	<b>Pulse compression and time-range sidelobes suppression</b> <i>(reference: point 3.2.6 in the table of the document titled Technical Specifications)</i>	The radar shall be capable of pulse compression, i.e. transmitting and receiving long FM pulses to achieve similar range resolutions to traditional pulse radars. Peak Side Lobes (PSL) and Integrated Side Lobes (ISL) due to pulse compression shall be suppressed by at least 50 dB.	PSL [dB]:  ISL [dB]:	D
	selection criteria			
60.	<b>Pulse lengths</b> <i>(reference: point 3.2.7 in the table of the document titled Technical Specifications)</i>	The transmitter must support at least 4 pulse lengths, configurable in RDA software. The pulse length must be adjustable in the range from at least 0.5 µs to 100 µs.	number of pulse lengths:  minimum pulse lengths [µs]:  maximum pulse lengths [µs]:	D
	selection criteria			
Group 4 (MRC Lisca)		Receiver, signal and control processor		
Basic requirements				



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
61.	<b>Installation at the back of antenna</b> (reference: point 4.1.1 in the table of the document titled <i>Technical Specifications</i> )	The analog receiver, digital receiver, signal processor (RSP) and control processor (RCP) shall be installed together with transmitter at the back side of antenna, forming a compact transceiver.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
<b>Analog RF-to-IF receiver</b>				
62.	<b>Noise figure</b> (reference: point 4.2.2 in the table of the document titled <i>Technical Specifications</i> )	The noise figure of the receiver shall be 2 dB or less.	noise figure [dB]:	<b>D</b>
63.	<b>Receiver linear dynamic range</b> (reference: point 4.2.3 in the table of the document titled <i>Technical Specifications</i> )	The linear dynamic range of the receiver shall be at least 110 dB.	the linear dynamic range (dynamic range) [dB]:	<b>D</b>
	selection criteria			



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
64.	<b>Two-stage IF downconversion</b> (reference: point 4.2.4 in the table of the document titled <i>Technical Specifications</i> )	The RF/IF down-converter: a) shall have two-stage implementation b) final stage IF shall be at least 60 MHz.	a) <input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)  b) the final stage IF [MHz]:	D
65.	<b>Image frequency rejection</b> (reference: point 4.2.5 in the table of the document titled <i>Technical Specifications</i> )	The image frequency rejection ratio (IRR) shall be better than 100 dB, including waveguide filters.	IRR [dB]:	D
66.	<b>Transmitted pulse sampling</b> (reference: point 4.2.6 in the table of the document titled <i>Technical Specifications</i> )	The receiver must sample each transmitted pulse in both channels. Down-converted samples shall be measured with the same receiver channels as the weather signal to compensate for variability in transmitter power or receiver gain.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
67.	<b>Compensation of output power variation</b> (reference: point 4.2.7 in the table of the document titled <i>Technical Specifications</i> )	Automatic compensation for changes in output power shall be able to correct measured values, even in the case of a significant drop in output power due to a failure in an amplifier unit.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
IF digital receiver (IFDR)				
68.	<b>Digitizing parameters</b> (reference: point 4.3.2 in the table of the document titled Technical Specifications)	The digitizing in each H and V channel shall: a) be with 16 bits resolution, b) have maximum available sampling rate of at least 100 MHz.	a) <input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)  b) maximum available sampling rate [MHz]:	<b>D</b>
69.	<b>Matched filter</b> (reference: point 4.3.3 in the table of the document titled Technical Specifications)	The IFDR shall automatically calculate a matched filter for the given pulse length and bandwidth of the transmit waveform. The filter design GUI shall display the properties of the digital filter in the time and frequency domains.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
70.	<b>GUI for burst pulse and IF spectral analysis</b> (reference: point 4.3.4 in the table of the document titled Technical Specifications)	GUI shall provide visual tools for transmitted pulse and IFDR signals analysis and configuration.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
71.	<b>Phase-locked receiver</b> (reference: point 4.3.5 in the table of the document titled Technical Specifications)	The ADC in the digital IF receiver and the STALO in the downconverter shall be phase locked to a common reference signal.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
72.	<b>Thermal self-monitoring and management</b> (reference: point 4.3.6 in the table of the document titled Technical Specifications)	The IFDR shall have self-monitoring and thermal management functions. The temperatures in the analog receiver and IFDR shall be monitored. If safe temperature threshold is exceeded, a warning shall be issued.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
73.	<b>Minimum detectable reflectivity</b> (reference: point 4.3.7 in the table of the document titled Technical Specifications)	The radar system shall be capable of measuring at least $Z_0 = -9$ dBZ at reference distance of 100 km from the antenna, with the following assumed configuration and characteristics set in 4.3.7 of the Technical Specifications.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
<b>Radar signal processor (RSP)</b>				
74.	<b>General requirements</b> (reference: point 4.4.1 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>Pulse averaging: up to 1024 pulses.</li> <li>Clutter cancellation capability: availability of an adaptive width technique with signal reconstruction, real-time, at the level of RSP.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
75.	<b>Number of range bins</b> (reference: point 4.4.2 in the table of the document titled <i>Technical Specifications</i> )	Number of range bins must be at least 8000 per radial.	number of range bins:	D
76.	<b>Range bin spacing</b> (reference: point 4.4.3 in the table of the document titled <i>Technical Specifications</i> )	Minimum range bin resolution: 25 m or better	minimum range bin resolution [m]:	D
77.	<b>Clutter filtering technique</b> (reference: point 4.4.4 in the table of the document titled <i>Technical Specifications</i> )	Clutter filtering technique with > 40 dB suppression in presence of weather signal.	CCR [dB]:	D
	selection criteria			
78.	<b>Second trip filtering and recovery</b> (reference: point 4.4.5 in the table of the document titled <i>Technical Specifications</i> )	At least pseudo random, SZ (8/64) phase coding techniques or equivalent.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
79.	<b>Radar moments</b> (reference: point 4.4.6 in the table of the document titled <i>Technical Specifications</i> )	The RSP (or RDA software) shall produce the following mandatory radar moments (quantities) in real time: <ul style="list-style-type: none"> <li>• dBZh (clutter-filtered (horizontal) reflectivity)</li> <li>• dBTh (unfiltered (horizontal) reflectivity)</li> <li>• V (radial mean velocity)</li> <li>• W (radial velocity spectrum width)</li> <li>• SQI (signal quality index)</li> <li>• ZDR (differential reflectivity)</li> <li>• PhiDP (differential phase shift)</li> <li>• KDP (specific differential phase)</li> <li>• RhoHV (correlation coefficient)</li> <li>• LDR (linear depolarization ratio)</li> <li>• HCL (hydrometeor classification)</li> <li>• PMET (polarimetric metric of meteo/non-meteo echoes).</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
80.	<b>Additional radar moments</b> (optional technical characteristic)	The RSP (or RDA software) shall produce the following optional radar moments (quantities) in real time: <ul style="list-style-type: none"> <li>• CSR (clutter-to-signal ratio)</li> <li>• Ah, Av (integral attenuation for horizontal (H) and vertical (V) channels)</li> <li>• AZdr (integral attenuation of ZDR)</li> <li>• LOG (Logarithmic receiver SNR)</li> <li>• XCOR (noise uncorrected RhoHV)</li> <li>• NMCL (non-meteo echo classification)</li> <li>• dBZhv (polarimetric 3dB-corrected reflectivity)</li> </ul>	<u>Mark ones you offer:</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> CSR</li> <li><input type="checkbox"/> Ah and Av</li> <li><input type="checkbox"/> AZdr</li> <li><input type="checkbox"/> LOG</li> <li><input type="checkbox"/> XCOR</li> <li><input type="checkbox"/> NMCL</li> <li><input type="checkbox"/> dBZhv</li> </ul>	<b>D</b>
	selection criteria			



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
81.	<b>Radar moments and I/Q data resolution</b> (reference: point 4.4.7 in the table of the document titled Technical Specifications)	All radar moments shall be at least in either 8-bit or 16-bit resolution (selectable), while I/Q data shall be in 16-bit format.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
82.	<b>2D speckle filters (RSP or RDA software)</b> (reference: point 4.4.8 in the table of the document titled Technical Specifications)	2D speckle filter shall eliminate spurious pixels or fill missing pixels based on consensus techniques.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
83.	<b>Additional requirements (RSP or RDA software)</b> (reference: point 4.4.9 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>Utility display with GUI for plotting I/Q values, spectra, and moments.</li> <li>Real time streaming moments of I/Q output and minimum Z, V, W, SQI radar moments.</li> <li>GUI for local/remote real-time display.</li> <li>I/Q recording and playback of all range bins and all pulses with reprocessing in RSP.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
84.	<b>Radar moments thresholding</b> (reference: point 4.4.10 in the table of the document titled Technical Specifications)	Thresholding of each radar moment shall be possible and configurable based on at least: <ul style="list-style-type: none"> <li>SNR,</li> <li>CSR,</li> <li>LOG,</li> <li>SQI,</li> <li>PMET</li> </ul> with user selectable rules and thresholds.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
85.	<b>Hydrometeor classification and subsequent quality enhancement</b> (reference: point 4.4.11 in the table of the document titled <i>Technical Specifications</i> )	The RSP (or RDA software) shall be able to determine prevalent hydrometeor type in every single radar bin/gate or volume in real-time (HCL moment as in 5.2.7) and use this data for quality enhancement purposes when applying polarimetric attenuation correction to Zc and ZDRc and in thresholding radar moments data (Z, V, W, polarimetric moments).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
86.	<b>High-resolution KDP</b> (reference: point 4.4.12 in the table of the document titled <i>Technical Specifications</i> )	A robust algorithm shall be provided, using dynamic range derivatives or equivalent, for calculating the high-resolution KDP which shall: <ul style="list-style-type: none"> <li>• handle possible phase wrapping</li> <li>• handle noise and associated fluctuation in the PhiDP</li> <li>• handle PhiDP discrete jump in the transition zone</li> <li>• retain the spatial gradients of rainfall using R(KDP) relationship above the small KDP noisy range.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
87.	<b>Real-time attenuation correction</b> (reference: point 4.4.13 in the table of the document titled <i>Technical Specifications</i> )	RSP (or RDA software) shall perform real-time attenuation correction for Z and ZDR estimated from differential propagation phase KDP.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
88.	<b>Automatic calibration of ZDR</b> (reference: point 4.4.14 in the table of the document titled <i>Technical Specifications</i> )	The RSP (or RDA software) shall include automatic calibration of ZDR based on bird-bath scanning.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
89.	<b>Automatic correction for gaseous attenuation</b> (reference: point 4.4.15 in the table of the document titled <i>Technical Specifications</i> )	The RSP (or RDA software) shall include correction of dBZ for gaseous attenuation.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
90.	<b>Non-meteorological echo filtering</b> (reference: point 4.4.16 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>A radio-interference filtering shall detect contaminated radar bins, remove interferences and correct radar echoes</li> <li>Sea clutter shall be detected as non-meteorological target and removed from weather data.</li> <li>Wind-turbine clutter shall be detected as non-meteorological target and removed from weather data.</li> <li>Other non-meteorological clutter shall be detected as non-meteorological target and removed from weather data.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
91.	<b>Overall polarimetric quality</b> (reference: point 4.4.17 in the table of the document titled <i>Technical Specifications</i> )	The combined antenna, receiving chain and RSP shall provide a RhoHV measurement better than 0.99 in light rain.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
92.	<b>High sensitivity polarimetric reflectivity estimator</b> (optional technical characteristic)	A high-sensitivity polarimetric reflectivity estimator, designed to increase detectability by at least 3 dB compared to a traditional dBZh shall be provided.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
	selection criteria			



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
<b>Radar antenna and control processor (RCP)</b>				
93.	<b>Safe operation thresholds</b> (reference: point 4.5.1 in the table of the document titled Technical Specifications)	The RCP shall maintain thresholds for the safe operation of the hardware. In any case, any potential operating error either due to faulty user commands or due to a defective device shall under no circumstances harm the system hardware or the safety of the operating and maintenance personnel.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
94.	<b>Radar system monitoring and safety actions</b> (reference: point 4.5.2 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>The radar must include a capability for equipment monitoring and reporting the status of radar functions locally and remotely</li> <li>Automatic safety actions, such as power switch-off (i. e. antenna shut-down), must be performed locally when undesired operating conditions are detected.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
95.	<b>BITE system</b> (reference: point 4.5.3 in the table of the document titled Technical Specifications)	The radar system must be equipped with a comprehensive state-of-the-art BITE system. The RCP shall handle the BITE information and identify faulty operating conditions or devices, react promptly and report the malfunction together with the related actions (e.g. transmitter shut down) both to a log file and to a user interface.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
96.	<b>BITE parameters</b> (reference: point 4.5.4 in the table of the document titled <i>Technical Specifications</i> )	At least the following parameters must be monitored by the BITE system: <ul style="list-style-type: none"> <li>transmit-signal modules operation</li> <li>motor driver status and alarms</li> <li>temperatures at important positions</li> <li>antenna elevation limit switches</li> <li>interlocks</li> <li>voltages of individual power supplies</li> <li>pressure and relative humidity status of waveguide atmosphere.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
97.	<b>Requirements for the BITE system</b> (reference: point 4.5.5 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>The user must be able to calibrate some of BITE signals.</li> <li>Graphical interface must be available concerning the radar status and the BITE in the format of a system block diagram. Major subcomponents (i.e. transmitter, antenna) shall be indicated as blocks, with color-coded information regarding their operational status</li> <li>BITE must have an integrated sensor for displaying temperature in the radar equipment area and radome.</li> <li>BITE must issue a warning message if the critical statuses appear, such as exceeded temperature thresholds in the radar system or radome.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
98.	<b>Additional requirements for the BITE system</b> (optional technical characteristic)	BITE system shall support SNMP protocol.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
	selection criteria			



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
99.	<b>Operation logging</b> (reference: point 4.5.6 in the table of the document titled Technical Specifications)	A system operation and a malfunction shall be recorded continuously in logging files.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
100.	<b>Warning and error messages</b> (reference: point 4.5.7 in the table of the document titled Technical Specifications)	Warning and error messages shall automatically be forwarded to pre-defined mail addresses or GUI displays.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
101.	<b>Maintenance functionalities in software</b> (reference: point 4.5.8 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"><li>• The identical maintenance functions that are available locally at the radar site must be available to maintenance personnel logged in on networked maintenance workstations, e. g. on the RPG server.</li><li>• Comprehensive supervision and monitoring of antenna, receiver, transmitter and signal processor. Malfunctions and faulty conditions must be highlighted automatically.</li><li>• Real-time visualization of all supported raw data types: PPI, RHI or A-SCOPE.</li><li>• Automatic sun tracking to support the geographical north alignment of the antenna subsystem.</li></ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
Group 5 (MRC Lisca)		Radar data acquisition (RDA)		
RDA Computer				
102.	<b>Platform</b> (reference: point 5.1.1 in the table of the document titled Technical Specifications)	The RDA computer shall be a standard PC platform based system. All off-the-shelf computer hardware shall be of latest version at the time of FAT.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
103.	<b>Operating system</b> (reference: point 5.1.2 in the table of the document titled Technical Specifications)	RDA computer shall have preinstalled Linux OS. All off-the-shelf operating or supporting software shall be of latest version at the time of FAT.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
104.	<b>Spare synchronized disk</b> (reference: point 5.1.3 in the table of the document titled Technical Specifications)	At least one synchronized spare hard disk, (identical to the installed disk in the RDA computer) shall be delivered with the RDA computer. Equivalent robust backup solutions are acceptable, too.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
105.	<b>Automatic recovery from a power failure</b> (reference: point 5.1.4 in the table of the document titled Technical Specifications)	Hardware combination (RSP, RCP, RDA computer) must be capable of automatic recovery from a power failure. The power-up state of all signals to the radar must be well defined and must not permit any uncontrolled operation of the radar.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
<b>RDA Software</b>				
106.	<b>Basic requirements</b> (reference: point 5.2.1 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>The RDA software shall be GUI based, running on Linux OS.</li> <li>The access to operational parameters such as radar scanning settings, product scheduler and radar control utilities shall be password-protected.</li> <li>All operational parameters and scheduler shall be configurable and controllable from remote locations as well.</li> <li>The RDA software shall control the radar by controlling the RSP and the RCP.</li> <li>The RDA software shall permit the operator to control all major radar functions and parameters, both switching and configuration. All combinations of radar parameters selected for use shall be checked for consistency and reasonability.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
		Operation of the radar system outside its safe limits shall not be possible.		
107.	<b>Radar scanning control</b> (reference: point 5.2.2 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>GUI shall enable the complete configuration of the radar scanning parameters, such as scan elevations, time and range sampling rate, pulse length, PRF, antenna speed, clutter filter, signal thresholds, quality control etc.</li> <li>The abovementioned parameters shall be configurable separately for each elevation of a group of elevations (hybrid scanning).</li> <li>The RDA software shall permit different scanning modes, during which data (intensity, Doppler and polarimetric radar moments) shall be collected.</li> <li>Antenna shall scan in one of selected scan modes: PPI mode, 3D-scan mode (Volume), RHI-scan mode, Sector scan mode, Pointing mode. At least decreasing and increasing elevation angles shall be possible.</li> <li>Any scan mode may be selected to repeat at a given interval, starting from a given time. Once repeating, any scan mode may also be stopped at a predetermined time.</li> <li>The schedule may be constructed of any series of different scan modes, which then repeat according to the schedule.</li> <li>If two or more different scans are scheduled for execution at exact same time, it must be possible to define which scan has higher priority.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
108.	<b>Automatic change of scan schedule</b> (reference: point 5.2.3 in the table of the document titled <i>Technical Specifications</i> )	Automatic change of scan schedule: <ul style="list-style-type: none"> <li>The scan schedule may be changed automatically to a different schedule based on atmospheric phenomena in specific area detected by the system. Users shall have the ability to define types of phenomena which shall make this change in schedule.</li> <li>Automatic changes of the scan schedules shall be logged and users shall be notified when the schedule has changed.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
109.	<b>Dissemination of radar files</b> (reference: point 5.2.4 in the table of the document titled <i>Technical Specifications</i> )	It shall be possible to immediately automatically disseminate radar raw data (volumes or PPI's) to the remote sites (especially to the central RPG server) for archiving, research, 2D radar product generation and postproduction.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
110.	<b>Required algorithms of data quality control</b> (reference: point 5.2.5 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>PhiDP-based attenuation correction: Correction of dBZ data for rainfall attenuation based on filtered PhiDP data. The system shall be able to correct for signal attenuation through rainfall.</li> <li>Bright Band Correction: the system shall be able to detect and correct for biases in reflectivity due to bright band effects.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
111.	<b>Radar data formatting</b> (reference: point 5.2.6 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>All radar data shall be stored in a 8-bit or 16-bit binary form.</li> <li>The polar volume data shall be subjected to height-threshold (i.e. all echoes above a specifiable maximum height shall be removed) and compressed for disk storage and onward transmission.</li> <li>Polar data shall be compressed at least to reduce "clear sky" data.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
112.	<b>Hydrometeor classification moment</b> (reference: point 5.2.7 in the table of the document titled Technical Specifications)	<p>RDA software (of RSP) shall generate a radar moment - quantity (HCL) that classifies prevalent precipitation phenomena in each radar volume, at least: rain, hail, snow, wet show, graupel, and non-meteorological targets using non-polarimetric and polarimetric radar moments.</p> <p>The quantity shall be added to the other radar moments in the radar volume file(s).</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
113.	<b>Interaction with central RPG server</b> (reference: point 5.2.8 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>The RDA software shall transmit raw data and possible single-radar products in an efficient manner (using loss-less data compression if needed) techniques.</li> <li>The RDA software may produce the same single-radar products as RPG (see 8.5 of Technical Specification)</li> <li>The RDA software and RPG system shall communicate using TCP/IP protocols.</li> <li>It must be possible to store and archive at least 5 running days of raw data locally at the radar site.</li> <li>The raw data must be adequately buffered at the radar site so that temporary loss of communications does not result in loss of data communicated to the main LAN.</li> <li>In case communication is lost for short period of time, the RDA software shall be capable of re-transmitting the data files to RPG server. If communications lost is longer period of time, the RDA shall have adjustable function to re-transmit only the most recent data first to avoid overload of communication network.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
114.	<b>RDA GUI display for I/Q data, spectra and moments</b> (optional technical characteristic)	RDA shall have GUI display for plotting I/Q values, spectra and moments, for diagnostic and maintenance purposes (A Scope).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
	selection criteria			
115.	<b>RDA limited radar product generator functions</b> (optional technical characteristic)	RDA shall have basic radar product generator function, i.e. generation of PPI and RHI products and the ability to display this in GUI.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
	selection criteria			
Dobava, namestitev in zagon sprejemnika na MRC Pasja ravan (Supply, upgrade and commission the receiver at MRC Pasja ravan)				
Group 6 (MRC Pasja ravan)		Upgrade of the receiver and RDA computer at the Pasja ravan radar		
116.	<b>Preservation of radar performance</b> (reference: point 6.3 in the table of the document titled Technical Specifications)	The upgrade shall not deteriorate any of technical properties and capabilities of the existing radar, especially: <ul style="list-style-type: none"><li>• Radar sensitivity (MDS, Z0), maximum RhoHV, maximum de-aliased radial velocity etc.</li><li>• Reliable operation including antenna steering.</li><li>• Radar transmitter capabilities and reliability.</li><li>• Connectivity and interaction with the central RPG server.</li></ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
117.	<b>Power consumption</b> (reference: point 6.4 in the table of the document titled Technical Specifications)	The upgrade shall not considerably increase power consumption of the radar cabinet (2500 W max).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
<b>Dobava, namestitev in zagon centralne procesne programske radarske opreme (RPG) in spletnega prikazovalnika (RWS) na centralni lokaciji ARSO</b> (Supply, installation and commissioning of the central radar processing software (RPG) and web display software (RWS) at the ARSO central facility)				
<b>Group 7 (ARSO central facility RPG in RWS)</b>		<b>Web-based visualization service for graphical radar products (RWS)</b>		
118.	<b>Browser support</b> (reference: point 7.3 in the table of the document titled Technical Specifications)	RWS shall support the latest versions of the widely used web browsers, at least Google Chrome and Mozilla Firefox.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
119.	<b>Multi-user authentication</b> (reference: point 7.4 in the table of the document titled Technical Specifications)	RWS shall include multi-user authentication and flawless simultaneous operation. The maximum number of simultaneously connected clients shall be at least 10 for data visualization.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
120.	<b>Accounts and licensing</b> (reference: point 7.5 in the table of the document titled Technical Specifications)	RWS system administrator shall be able to configure user accounts which have access to the data displays. If licensing is per-user based, ten (10) permanent licenses shall be included in the offer.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
121.	<b>Security standards</b> (reference: point 7.6 in the table of the document titled <i>Technical Specifications</i> )	RWS shall conform to general security standards for web-based systems (such as Web Services Security).  The RWS security level must be certified by an independent third party	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b> (The Tenderer must provide the required certificate or other document from an independent third party)
122.	<b>Basic requirements</b> (reference: point 7.7 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>RWS shall be able to display products generated by the RPG.</li> <li>The most recent data must always be available for display. In online mode, displays shall be updated automatically as soon as a new product of the selected type has been acquired and generated.</li> <li>The product displays shall include standard zoom, pan, and scroll-functions.</li> <li>The software shall be able to create an animated loop of products that are displayed step-by-step or animated at selectable frame rate. It shall be possible to include at least 30 radar images of an arbitrary type in one animation.</li> <li>The system shall use underlaid 2D topographical maps, geographical maps and other user-selectable maps to be displayed below the radar data. It must be possible to configure borders, rivers, roads and cities as separate layers. Users must be able to switch off/on single layers individually.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
123.	<b>Basic interactive capabilities</b> (reference: point 7.8 in the table of the document titled Technical Specifications)	<ul style="list-style-type: none"> <li>It shall be possible for a user to measure distances between any two locations on the product display.</li> <li>It shall be possible to obtain information regarding geographical position, distance and intensity by mouseclick onto the product display.</li> <li>It shall be possible to generate on-line vertical cross-sections (VCS) of the selected radar volume along the line as defined by two mouse-selected points. It shall be possible to reposition the end-points of the VCS in a plan view and have the VCS view immediate update interactively.</li> <li>It shall be possible to retain the selected VCS line and redraw the VCS with the radar volumes at different measured times.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
124.	<b>Curvilinear VCS</b> (reference: point 7.9 in the table of the document titled Technical Specifications)	It shall be possible to select a VCS curve instead of VCS line by mouse clicking and have the same capabilities as in 7.8 of Technical Specifications.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
125.	<b>Displaying of single radars' and radar composites' products</b> (reference: point 7.10 in the table of the document titled Technical Specifications)	It shall be possible to display products of single radars and radar composites (mosaics).	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
126.	<b>Import of data from other remote sensing devices</b> (reference: point 7.11 in the table of the document titled Technical Specifications)	It shall be possible to import data from other remote sensing devices, especially lightning data and lidars. These data shall be displayed as a separate level on existing radar products and shall be synchronized in time with underlying radar products, in step-by-step or animated display.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
127.	<b>Various display capabilities</b> (reference: point 7.12 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>The application allows the user to draw protected areas over the map and generate alerts based on radar-based criteria set by the user.</li> <li>The ability to display multiple radar products simultaneously overlaid on the same map with adjustable opacity.</li> <li>When displaying products in multiple windows, it shall be possible that the geographic location and data time are synchronized between the multiple displays of radar data.</li> <li>The software displays radar products with at least 256 color levels.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
<b>Group 8 (ARSO central facility RPG and RWS)</b>		<b>Central Radar Product Generator (RPG) software</b>		
128.	<b>Basic requirements</b> (reference: point 8.1 in the table of the document titled <i>Technical Specifications</i> )	<ul style="list-style-type: none"> <li>The RPG software shall be located at the Contracting Authority's central facilities.</li> <li>It shall be installed on a virtualized Linux OS server, pre-prepared by the Contracting Authority in accordance with selected Tenderer's specifications.</li> <li>A graphical GUI using English language shall be able to configure all types of radar products as specified in Group 8.</li> <li>The new RPG software shall produce the same set of radar products as the current operating RPG at the Contracting Authority's central facilities.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
129.	<b>File format support</b> (reference: point 8.2 in the table of the document titled <i>Technical Specifications</i> )	RPG software, along native, shall support various radar data file formats, at least: <ul style="list-style-type: none"> <li>ODIM HDF5 (EUMETNET/OPERA Data Information Model), versions 2.3 or newer</li> <li>NetCDF</li> <li>GeoTIFF</li> <li>OPERA BUFR</li> </ul> and graphical file formats PNG, GIF and JPEG.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
130.	<b>Geographical projectionis</b> (reference: point 8.4 in the table of the document titled <i>Technical Specifications</i> )	The RPG software shall support the use of different geographic projections, at least: <ul style="list-style-type: none"> <li>• Azimuthal Equidistant</li> <li>• Lambert conical conformant</li> <li>• Mercator</li> <li>• Polar Stereographic.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D
131.	<b>Generation of Cartesian-2D radar products</b> (reference: point 8.5 in the table of the document titled <i>Technical Specifications</i> )	The RPG software shall ingest the raw data from the various weather radars and generate as a minimum, the following basic single-radar Cartesian-2D products (which may also be generated already by RDA, see 5.2.8 of Technical Specification): <ul style="list-style-type: none"> <li>• PPI - Plan Position Indicator: shows the distribution of the selected radar data (moments) parameter on a constant elevation angle surface.</li> <li>• Constant Altitude PPI (CAPPI) shows the distribution of the selected radar data at constant altitude. Multi-level CAPPI's shall be possible where multiple height levels are defined by periodic interval.</li> <li>• Pseudo CAPPI: CAPPI with prolonged surface along the closest elevation when CAPPI is out-of-range.</li> <li>• MAX product shows the distribution of the selected radar data with maximum value along the vertical column.</li> <li>• VIL (Vertically Integrated Liquid) product shows the estimated precipitable water contained within user-defined layers. The VIL product shall have capability to display vertically integrated reflectivity (VIR) and VIL-density.</li> <li>• Echo-tops product (TOPS) will find the highest altitude of any user defined value of reflectivity.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	D



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
		<ul style="list-style-type: none"> <li>Echo-base product will find the lowest altitude of any user defined value of reflectivity.</li> <li>LAYER product will find the average value of any input data between two user-defined altitudes.</li> <li>Thickness product shall find the thickness between the lowest occurrence and highest occurrence of any user defined reflectivity value.</li> <li>HMAX shows the height of the largest data value within a vertical column on a Cartesian-2D plane.</li> <li>»Height of bright band« product from single-radar volume files</li> </ul>		
132.	<b>Generation of non-Cartesian radar products</b> (reference: point 8.6 in the table of the document titled <i>Technical Specifications</i> )	<p>The RPG software shall ingest the raw data from the various weather radars and generate as a minimum, the following non-Cartesian-2D products:</p> <ul style="list-style-type: none"> <li>RHI - (Radar Height Indicator) shows the distribution of the selected radar data on a constant azimuthal surface or when the antenna is scanning vertically.</li> <li>VVP – Vertically Velocity Profile.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>
133.	<b>Polarimetric precipitation products</b> (reference: point 8.7 in the table of the document titled <i>Technical Specifications</i> )	<p>The RPG software shall use polarimetric moments and Z-R relationships to calculate precipitation rates, which shall be based on at least KDP, Z/ZDR, and Z/ZDR/KDP relationships to rainfall rate.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<div>D</div>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
134.	<b>Rainfall products</b> (reference: point 8.8 in the table of the document titled Technical Specifications)	<p>The RPG software shall generate as a minimum, the following Cartesian 2D single-radar rainfall products:</p> <ul style="list-style-type: none"> <li>SRI - Surface Rain Intensity product will estimate the rainfall rate at the earth's surface. This will include a Vertical Reflectivity Profile correction accounting for bright band contamination, changes in topography, and convective versus stratiform precipitation.</li> <li>Rain accumulation (RACC) shall be based on surface rain intensity product or CAPPI product. Surface rainfall estimation shall be correctable by rain gauge data.</li> <li>Rain accumulation shall be calculated for at least 1 – 144 hour period. It shall be possible to have running or fixed periods.</li> <li>Product which calculates the precipitation accumulation in Contracting Authority supplied subcatchment areas such as watershed areas.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
135.	<b>Echo tracking and automatic warnings</b> (reference: point 8.9 in the table of the document titled Technical Specifications)	<p>The RPG shall ingest radar raw data or base products from the various radars, generate necessary products and have at least the following features:</p> <ul style="list-style-type: none"> <li>Range-time distance equation shall be used to estimate velocity of the track features. The track features shall be extrapolated to a future point in time generating a forecasted track.</li> <li>There shall be a methodology to automatically search for certain atmospheric phenomena within the radar data to produce an automated warning. The warning criteria shall be user-definable. There may be multiple criteria used to define one warning definition. When warning condition has been met. there shall be an alert message in form of pop-up window, audio signal or e-mail.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
136.	<b>Doppler wind products</b> (reference: point 8.10 in the table of the document titled <i>Technical Specifications</i> )	The RPG shall ingest the raw data or base products from the various radars and generate as a minimum, the following wind products: <ul style="list-style-type: none"> <li>vertical Volume Processing will calculate the wind speed and direction, axis of deformation, vertical wind speed, and divergence vs height in the user-defined vicinity of the radar site. It shall also display the vertical distribution of reflectivity.</li> <li>The 2-D wind product shall generate a Cartesian 2-D array of horizontal wind vectors using the radial velocity information using the assumption the wind is uniform over a limited sector.</li> <li>The multi-doppler radar 2D wind product shall generate a Cartesian 2D array of horizontal wind vectors at specified CAPPI layer(s) using doppler radial wind data from two or more radars.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
137.	<b>Composite products</b> (reference: point 8.11 in the table of the document titled <i>Technical Specifications</i> )	The RPG shall create mosaic (composite) data products from multiple single-radar products as follows: <ul style="list-style-type: none"> <li>Composites shall be possible at least for PPI, CAPPI, MAX, BASE, RACC, Echo tops, VIL and SRI products (see 5.2.8 and 8.5 of Technical Specifications).</li> <li>The compositing from multiple radar sites shall be done at least by the following algorithms: maximum value, average value, radar priority, nearest radar, or user-supplied-weights combination.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
138.	<b>Graphical product rendering</b> (reference: point 8.12 in the table of the document titled <i>Technical Specifications</i> )	The RPG software shall automatically provide and distribute user-defined radar products for subsequent GUI windows display and for file generation in common graphical formats (e.g. GeoTIFF, PNG, JPG, GIF). Combining several products, created from the same geographical domain, as layers on top of each other shall be possible, including geographical and topographical layers, built-in or user-defined.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
139.	<b>Subsequent product dissemination</b> (reference: point 8.13 in the table of the document titled <i>Technical Specifications</i> )	The RPG software shall automatically create and transfer numerical or graphical products to other user-defined destinations with minimum possible delay. Standard local or TCP/IP based protocols shall be used, at least Unix cp, SFTP, SCP, FTP and user-supplied scripts/programs.	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	<b>D</b>
140.	<b>File format conversions</b> (reference: point 8.14 in the table of the document titled <i>Technical Specifications</i> )	Conversion of specified radar products shall be available to ODIM HDF5 file format V 2.3 and/or newer, at least with 8- and 16-bit depth, for the following products: RAW volumes, CAPPI, MAX, PPI, RACC, Echo tops, SRI, VIL, HCL etc. (see 5.2.8 and 8.5 of Technical Specifications)	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	



Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
141.	<b>GUI capabilities</b> (reference: point 8.15 in the table of the document titled <i>Technical Specifications</i> )	<p>The GUI capabilities shall be of the level of a typical radar display station:</p> <ul style="list-style-type: none"> <li>• Displaying all user-defined radar products with possible over- and under-lays in GUI windows in real-time with minimum delay.</li> <li>• The complete RPG configuration shall be fully GUI based.</li> <li>• The most recent data shall always be available for display. Displays shall be updated automatically as soon as a new product of the selected type has been acquired and generated.</li> <li>• The product displays shall include standard zoom, pan, and scroll-functions. The software shall include a functionality to create an animated loop of products that are displayed as a movie at a selectable frame rate. It shall be possible to include at least 30 radar images of an arbitrary type in one animation.</li> <li>• It shall be possible for a user to measure distances between any two locations on the product display.</li> <li>• It shall be possible to obtain information regarding geographical position, distance and intensity by mouse-click onto the product display window.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
142.	<b>Online GUI vertical cross-section (VCS)</b> (reference: point 8.16 in the table of the document titled <i>Technical Specifications</i> )	<p>It shall be possible to select two arbitrary positions in a product display by mouse click. The software shall generate and display a VCS along the line as defined by those two selected points. It shall be possible to reposition the end-point of the vertical cross section in a plan view and have the cross section view update interactively.</p>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	





Zap. št. (Ref. no.)	Značilnost (Feature)	Zahtevane tehnične specifikacije (Required technical characteristics)	Ponujene tehnične specifikacije (Offered technical characteristics)	Dokumentacija, ki potrjuje skladnost (Documentation confirming compliance)
143.	<b>Data archiving</b> (reference: point 8.17 in the table of the document titled <i>Technical Specifications</i> )	<p>The system shall include a method to archive the radar data, numerical and graphical. It must be possible to archive radar data at least on a local or network disk partition:</p> <ul style="list-style-type: none"> <li>Local archive and retrieval shall be available at the radar site (RDA workstation) and central site (RPG server).</li> <li>The archiving process (temporary and long-term) shall run automatically. The parameters of the archiving process shall be configurable.</li> <li>The following data types must be possible to archive: radar raw data, radar and composite product data, system log files and BITE messages.</li> <li>The system shall include tools for retrieval of archived radar data. It must be possible to display or re-process the data for the purposes of post-analysis.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	
144.	<b>Interaction with single radar RDA workstations</b> (reference: point 8.18 in the table of the document titled <i>Technical Specifications</i> )	<p>The RPG software shall be able to access all Contracting Authority's single radars' RDA software in parallel with the following minimum capabilities:</p> <ul style="list-style-type: none"> <li>Remote GUI control of the radar operation</li> <li>Remote GUI control of the radar BITE and system log system</li> <li>Remote configuration of the radar system.</li> </ul>	<input type="checkbox"/> da (yes) <input type="checkbox"/> ne (no)	

