

## ESA Patents

Please find the list of all Patents which can be promoted to be used within the technology competition below.

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**Patent Number** 794

**Patent Name** Reconfigurable Digital Beamforming Network

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Reconfigurable\\_Digital\\_Beamforming\\_Network](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Reconfigurable_Digital_Beamforming_Network)

**Notes** nan

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**Patent Number** 792

**Patent Name** Transmit/receive multiple feed per beam single reflector antenna

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Transmit\\_receive\\_multiple\\_feed\\_per\\_beam\\_single\\_reflector\\_antenna](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Transmit_receive_multiple_feed_per_beam_single_reflector_antenna)

**Notes** nan

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**Patent Number** 789

**Patent Name** Syntonization of Signals Between Satellites

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Syntonization\\_of\\_Signals\\_Between\\_Satellites](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Syntonization_of_Signals_Between_Satellites)

**Notes** nan

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**Patent Number** 783

**Patent Name** Heuristic Radio Resource Management for Massive MIMO in Broadband Communication Satellites

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Heuristic\\_Radio\\_Resource\\_Management\\_for\\_Massive\\_MIMO\\_in\\_Broadband\\_Communication\\_Satellites](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Heuristic_Radio_Resource_Management_for_Massive_MIMO_in_Broadband_Communication_Satellites)

**Notes** nan

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**Patent Number** 782

**Patent Name** Compact Feed System with Developable Waveguide H-plane Directional Coupler

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Compact\\_Feed\\_System\\_with\\_Developable\\_Waveguide\\_H-plane\\_Directional\\_Coupler](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Compact_Feed_System_with_Developable_Waveguide_H-plane_Directional_Coupler)

**Notes** nan

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**Patent Number** 775

**Patent Name** Machine Learning Corrections for Improved Positioning Accuracy

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Machine\\_Learning\\_Corrections\\_for\\_Improved\\_Positioning\\_Accuracy](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Machine_Learning_Corrections_for_Improved_Positioning_Accuracy)

**Notes** nan

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**Patent Number** 768

**Patent Name** Freeform catoptric telescope with pointing and nodding capabilities

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Freeform\\_catoptric\\_telescope\\_with\\_pointing\\_and\\_nodding\\_capabilities](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Freeform_catoptric_telescope_with_pointing_and_nodding_capabilities)

**Notes** nan

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**Patent Number** 767

**Patent Name** Gas bearing system

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Gas\\_bearing\\_system](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Gas_bearing_system)

**Notes** nan

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**Patent Number** 764

**Patent Name** A Pragmatic Approach to Massive Multiple Input Multiple Output (MIMO) for Satcoms

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/A\\_Pragmatic\\_Approach\\_to\\_Massive\\_Multiple\\_Input\\_Multiple\\_Output\\_MIMO\\_for\\_Satcoms](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/A_Pragmatic_Approach_to_Massive_Multiple_Input_Multiple_Output_MIMO_for_Satcoms)

**Notes** nan

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**Patent Number** 756

**Patent Name** Dual-Polarisation Four-Way Power Divider

**URL** [https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Dual-Polarisation\\_Four-Way\\_Power\\_Divider](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Dual-Polarisation_Four-Way_Power_Divider)

**Notes** nan

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**Patent Number** 754

**Patent Name** Peak and Valley Current Mode Control Using Double Compensation Ramp

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Peak\\_and\\_Valley\\_Current\\_Mode\\_Control\\_Using\\_Double\\_Compensation\\_Ramp](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Peak_and_Valley_Current_Mode_Control_Using_Double_Compensation_Ramp)

**Notes** nan

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**Patent Number** 750

**Patent Name** Two-Dimensional and Three-Dimensional Discrete Constrained Lenses with Minimized Optical Aberrations

**URL** [https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Two-Dimensional\\_and\\_Three-Dimensional\\_Discrete\\_Constrained\\_Lenses\\_with\\_Minimized\\_Optical\\_Aberrations](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Two-Dimensional_and_Three-Dimensional_Discrete_Constrained_Lenses_with_Minimized_Optical_Aberrations)

**Notes** nan

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**Patent Number** 747

**Patent Name** Compact waveguide orthomode transducer

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Compact\\_waveguide\\_orthomode\\_transducer](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Compact_waveguide_orthomode_transducer)

**Notes** nan

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**Patent Number** 735

**Patent Name** Magnetic damping for spacecraft stabilization after end of life

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Magnetic\\_damping\\_for\\_spacecraft\\_stabilization\\_after\\_end\\_of\\_life](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Magnetic_damping_for_spacecraft_stabilization_after_end_of_life)

**Notes** nan

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**Patent Number** 725

**Patent Name** Privacy-preserving GNSS remote-processing technique

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Privacy-preserving\\_GNSS\\_remote-processing\\_technique](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Privacy-preserving_GNSS_remote-processing_technique)

**Notes** nan

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**Patent Number** 724

**Patent Name** Stepped-impedance waveguide filters with multiple-transmission zeros

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Stepped-impedance\\_waveguide\\_filters\\_with\\_multiple-transmission\\_zeros](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Stepped-impedance_waveguide_filters_with_multiple-transmission_zeros)

**Notes** nan

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**Patent Number** 722

**Patent Name** Rocket Engine Internal Leak Detector

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Rocket\\_Engine\\_Internal\\_Leak\\_Detector](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Rocket_Engine_Internal_Leak_Detector)

**Notes** nan

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**Patent Number** 720

**Patent Name** POCKET++, An efficient, fast compression algorithm for fixed length data structures

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/POCKET\\_An\\_efficient\\_fast\\_compression\\_algorithm\\_for\\_fixed\\_length\\_data\\_structures](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/POCKET_An_efficient_fast_compression_algorithm_for_fixed_length_data_structures)

**Notes** nan

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**Patent Number** 717

**Patent Name** Multiple Access Telecom Reconfigurable Intersatellites

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Multiple\\_Access\\_Telecom\\_Reconfigurable\\_Intersatellites](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Multiple_Access_Telecom_Reconfigurable_Intersatellites)

**Notes** nan

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**Patent Number** 716

**Patent Name** Time Synchronization and Positioning in indoor GNSS receivers

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Time\\_Synchronization\\_and\\_Positioning\\_in\\_indoor\\_GNSS\\_receivers](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Time_Synchronization_and_Positioning_in_indoor_GNSS_receivers)

**Notes** nan

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**Patent Number** 713

**Patent Name** Method for Measuring and Viewing a Wave Surface using Spectrophotometry

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_for\\_Measuring\\_and\\_Viewing\\_a\\_Wave\\_Surface\\_using\\_Spectrophotometry](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_for_Measuring_and_Viewing_a_Wave_Surface_using_Spectrophotometry)

**Notes** nan

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**Patent Number** 703

**Patent Name** Data Compression and Decompression for Remote Monitoring and Control (POCKET+)

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Data\\_Compression\\_and-Decompression\\_for\\_Remote\\_Monitoring\\_and\\_Control\\_POCKET](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Data_Compression_and-Decompression_for_Remote_Monitoring_and_Control_POCKET)

**Notes** nan

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**Patent Number** 702

**Patent Name** Septum Couplers for Compact Waveguide Networks

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Septum\\_Couplers\\_for\\_Compact\\_Waveguide\\_Networks](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Septum_Couplers_for_Compact_Waveguide_Networks)

**Notes** nan

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**Patent Number** 701

**Patent Name** Signal Overlay Design and Detection for Satellite Communication Channels

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Signal\\_Overlay\\_Design\\_and\\_Detection\\_for\\_Satellite\\_Communication\\_Channels](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Signal_Overlay_Design_and_Detection_for_Satellite_Communication_Channels)

**Notes** nan

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**Patent Number** 682

**Patent Name** Imaging Spectrometer with Reflective Grating

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Imaging\\_Spectrometer\\_with\\_Reflective\\_Grating](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Imaging_Spectrometer_with_Reflective_Grating)

**Notes** nan

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**Patent Number** 675

**Patent Name** Optimised Resource Allocation in Broadband Satellites

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Optimised\\_Resource\\_Allocation\\_in\\_Broadband\\_Satellites](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Optimised_Resource_Allocation_in_Broadband_Satellites)

**Notes** nan

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**Patent Number** 668

**Patent Name** Method for the unambiguous tracking of Binary Offset Carrier (BOC) signals

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_for\\_the\\_unambiguous\\_tracking\\_of\\_Binary\\_Offset\\_Carrier\\_BOC\\_signals](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_for_the_unambiguous_tracking_of_Binary_Offset_Carrier_BOC_signals)

**Notes** nan

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**Patent Number** 657

**Patent Name** Microwave branching switch

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Microwave\\_branching\\_switch](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Microwave_branching_switch)

**Notes** nan

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**Patent Number** 656

**Patent Name** Uplink Scheduling for Galileo

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Uplink\\_Scheduling\\_for\\_Galileo?jiuio](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Uplink_Scheduling_for_Galileo?jiuio)

**Notes** nan

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**Patent Number** 649

**Patent Name** Multiport distribution network

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Multiport\\_distribution\\_network](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Multiport_distribution_network)

**Notes** nan

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**Patent Number** 645

**Patent Name** Differential wired communication link quality detector and differential wired communication link detection method

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Differential\\_wired\\_communication\\_link\\_quality\\_detector\\_and\\_differential\\_wired\\_communication\\_link\\_detection](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Differential_wired_communication_link_quality_detector_and_differential_wired_communication_link_detection)

**Notes** nan

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**Patent Number** 642

**Patent Name** Advanced Fluidic Filter

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Advanced\\_Fluidic\\_Filter](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Advanced_Fluidic_Filter)

**Notes** nan

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**Patent Number** 641

**Patent Name** Joint transmitter signal processing in multi-beam satellite systems

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Joint\\_transmitter\\_signal\\_processing\\_in\\_multi-beam\\_satellite\\_systems](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Joint_transmitter_signal_processing_in_multi-beam_satellite_systems)

**Notes** nan

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**Patent Number** 635

**Patent Name** Deployment Mechanism for Solar Concentrators

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Deployment\\_Mechanism\\_for\\_Solar\\_Concentrators](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Deployment_Mechanism_for_Solar_Concentrators)

**Notes** nan

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**Patent Number** 626

**Patent Name** Very Compact Waveguide Mode Extractor

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Very\\_Compact\\_Waveguide\\_Mode\\_Extractor](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Very_Compact_Waveguide_Mode_Extractor)

**Notes** nan

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**Patent Number** 623

**Patent Name** Innovative method and apparatus for transmitting data packets over a communication link that is shared by multiple users

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Innovative\\_method\\_and\\_apparatus\\_for\\_transmitting\\_data\\_packets\\_over\\_a\\_communication\\_link\\_that\\_is\\_shared\\_by\\_multiple\\_users](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Innovative_method_and_apparatus_for_transmitting_data_packets_over_a_communication_link_that_is_shared_by_multiple_users)

**Notes** nan

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**Patent Number** 622

**Patent Name** Receiving method and receiver for satellite-based automatic identification systems

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Receiving\\_method\\_and\\_receiver\\_for\\_satellite-based\\_automatic\\_identification\\_systems](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Receiving_method_and_receiver_for_satellite-based_automatic_identification_systems)

**Notes** nan

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**Patent Number** 621

**Patent Name** Innovative deployable antenna frame

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Innovative\\_deployable\\_antenna\\_frame](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Innovative_deployable_antenna_frame)

**Notes** nan

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**Patent Number** 619

**Patent Name** Optimised Antenna Elements Position and Dimensions

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Optimised\\_Antenna\\_Elements\\_Position\\_and\\_Dimensions](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Optimised_Antenna_Elements_Position_and_Dimensions)

**Notes** nan

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**Patent Number** 616

**Patent Name** Method for Designing a Modulable Metasurface Antenna Structure

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_for\\_Designing\\_a\\_Modulable\\_Metasurface\\_Antenna\\_Structure](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_for_Designing_a_Modulable_Metasurface_Antenna_Structure)

**Notes** nan

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**Patent Number** 613

**Patent Name** Hand Controller Device

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Hand\\_Controller\\_Device](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Hand_Controller_Device)

**Notes** nan

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**Patent Number** 610

**Patent Name** Reconfigurable RF front end circuit for a multi-beam array fed reflector antenna system

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Reconfigurable\\_RF\\_front\\_end\\_circuit\\_for\\_a\\_multi-beam\\_array\\_fed\\_reflector\\_antenna\\_system](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Reconfigurable_RF_front_end_circuit_for_a_multi-beam_array_fed_reflector_antenna_system)

**Notes** nan

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**Patent Number** 609

**Patent Name** European Crew Personal Active Dosimeter (EuCPAD)

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/European\\_Crew\\_Personal\\_Active\\_Dosimeter\\_EuCPAD](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/European_Crew_Personal_Active_Dosimeter_EuCPAD)

**Notes** nan

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**Patent Number** 598

**Patent Name** Uplink power control method and apparatus for satellite communications networks

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Uplink\\_power\\_control\\_method\\_and\\_apparatus\\_for\\_satellite\\_communications\\_networks](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Uplink_power_control_method_and_apparatus_for_satellite_communications_networks)

**Notes** nan

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**Patent Number** 597

**Patent Name** Beam-forming network for an array antenna and array antenna comprising the same

**URL** [https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Beam-forming\\_network\\_for\\_an\\_array\\_antenna\\_and\\_array\\_antenna\\_comprising\\_the\\_same](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Beam-forming_network_for_an_array_antenna_and_array_antenna_comprising_the_same)

**Notes** nan

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**Patent Number** 596

**Patent Name** Mechanical support ring structure

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Mechanical\\_support\\_ring\\_structure](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Mechanical_support_ring_structure)

**Notes** nan

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**Patent Number** 590

**Patent Name** Multibeam satellite communication system and method, and satellite payload for carrying out such a method

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Multibeam\\_satellite\\_communication\\_system\\_and\\_method\\_and\\_satellite\\_payload\\_for\\_carrying\\_out\\_such\\_a\\_method](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Multibeam_satellite_communication_system_and_method_and_satellite_payload_for_carrying_out_such_a_method)

**Notes** nan

**Patent Number** 589

**Patent Name** Automatically balanced load and increased capacity in communication systems and data networks

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Automatically\\_balanced\\_load\\_and\\_increased\\_capacity\\_in\\_communication\\_systems\\_and\\_data\\_networks](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Automatically_balanced_load_and_increased_capacity_in_communication_systems_and_data_networks)

**Notes** nan

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**Patent Number** 578

**Patent Name** Deployable tensegrity structure

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Deployable\\_tensegrity\\_structure](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Deployable_tensegrity_structure)

**Notes** nan

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**Patent Number** 576

**Patent Name** Method, device and system for compressing time series data

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_device\\_and\\_system\\_for\\_compressing\\_time\\_series\\_data](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_device_and_system_for_compressing_time_series_data)

**Notes** nan

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**Patent Number** 569

**Patent Name** Array antenna with controlled radiation pattern envelope manufacture method

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Array\\_antenna\\_with\\_controlled\\_radiation\\_pattern\\_envelope\\_manufacture\\_method](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Array_antenna_with_controlled_radiation_pattern_envelope_manufacture_method)

**Notes** nan

**Patent Number** 568

**Patent Name** Low weight, compactly deployable support structure

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Low\\_weight\\_compactly\\_deployable\\_support\\_structure](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Low_weight_compactly_deployable_support_structure)

**Notes** nan

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**Patent Number** 567

**Patent Name** Aperiodic and non-planar array of electromagnetic scatterers, and reflectarray antenna comprising the same

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Aperiodic\\_and\\_non-planar\\_array\\_of\\_electromagnetic\\_scatterers\\_and\\_reflectarray\\_antenna\\_comprising\\_the\\_same](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Aperiodic_and_non-planar_array_of_electromagnetic_scatterers_and_reflectarray_antenna_comprising_the_same)

**Notes** nan

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**Patent Number** 565

**Patent Name** Radio frequency amplifier with fast envelope tracking

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Radio\\_frequency\\_amplifier\\_with\\_fast\\_envelope\\_tracking](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Radio_frequency_amplifier_with_fast_envelope_tracking)

**Notes** nan

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**Patent Number** 564

**Patent Name** Multibeam Active Discrete Lens Antenna

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Multibeam\\_Active\\_Discrete\\_Lens\\_Antenna](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Multibeam_Active_Discrete_Lens_Antenna)

**Notes** nan

**Patent Number** 557

**Patent Name** Method to determine the integrity of positioning information in a Global Positioning System

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_to\\_determine\\_the\\_integrity\\_of\\_positioning\\_information\\_in\\_a\\_Global\\_Positioning\\_System](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_to_determine_the_integrity_of_positioning_information_in_a_Global_Positioning_System)

**Notes** nan

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**Patent Number** 552

**Patent Name** Sequential Switching Shunt Regulator Cell with Non-Redundant Rectifier

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Sequential\\_Switching\\_Shunt\\_Regulator\\_Cell\\_with\\_Non-Redundant\\_Rectifier](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Sequential_Switching_Shunt_Regulator_Cell_with_Non-Redundant_Rectifier)

**Notes** nan

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**Patent Number** 551

**Patent Name** Automatic identification system receiver and satellite payload comprising the same

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Automatic\\_identification\\_system\\_receiver\\_and\\_satellite\\_payload\\_comprising\\_the\\_same](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Automatic_identification_system_receiver_and_satellite_payload_comprising_the_same)

**Notes** nan

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**Patent Number** 550

**Patent Name** Solar array regulator based on step-up and down conversion and solar power system comprising the same

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Solar\\_array](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Solar_array)

regulator based on step-up and down conversion and solar power system comprising the same

**Notes** nan

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**Patent Number** 547

**Patent Name** Reconfigurable beam forming network architecture

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Reconfigurable\\_beam\\_forming\\_network\\_architecture](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Reconfigurable_beam_forming_network_architecture)

**Notes** nan

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**Patent Number** 544

**Patent Name** Navigation satellite tracking method and receiving station

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Navigation\\_satellite\\_tracking\\_method\\_and\\_receiving\\_station](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Navigation_satellite_tracking_method_and_receiving_station)

**Notes** nan

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**Patent Number** 543

**Patent Name** Satellite altimetry method and system with Doppler effect compensation

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Satellite\\_altimetry\\_method\\_and\\_system\\_with\\_Doppler\\_effect\\_compensation](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Satellite_altimetry_method_and_system_with_Doppler_effect_compensation)

**Notes** nan

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**Patent Number** 542

**Patent Name** Method, apparatuses and system for asynchronous spread-spectrum communication



**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_apparatuses\\_and\\_system\\_for\\_asynchronous\\_spread-spectrum\\_communication](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_apparatuses_and_system_for_asynchronous_spread-spectrum_communication)

**Notes** nan

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**Patent Number** 541

**Patent Name** A method for compensating signal distortion in an emitting payload

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/A\\_method\\_for\\_compensating\\_signal\\_distortion\\_in\\_an\\_emitting\\_payload](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/A_method_for_compensating_signal_distortion_in_an_emitting_payload)

**Notes** nan

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**Patent Number** 526

**Patent Name** Interferometric Radiometer for imaging radiation emission, especially from a geostationary orbit

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Interferometric\\_Radiometer\\_for\\_imaging\\_radiation\\_emission\\_especially\\_from\\_a\\_geostationary\\_orbit](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Interferometric_Radiometer_for_imaging_radiation_emission_especially_from_a_geostationary_orbit)

**Notes** nan

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**Patent Number** 522

**Patent Name** Method and apparatus for testing materials

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Method\\_and\\_apparatus\\_for\\_testing\\_materials](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Method_and_apparatus_for_testing_materials)

**Notes** nan

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**Patent Number** 509

**Patent Name** Packet data transmission over a shared transmission channel

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Packet\\_data\\_transmission\\_over\\_a\\_shared\\_transmission\\_channel](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Packet_data_transmission_over_a_shared_transmission_channel)

**Notes** nan

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**Patent Number** 499

**Patent Name** Novel X-ray imaging optics for improved medical diagnosis, material testing and lithography

**URL**

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Novel\\_X-ray\\_imaging\\_optics\\_for\\_improved\\_medical\\_diagnosis\\_material\\_testing\\_and\\_lithography](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Novel_X-ray_imaging_optics_for_improved_medical_diagnosis_material_testing_and_lithography)

**Notes** Will expire in February 2024

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