AZUR SPACE
A 5N PLUS COMPANY

AZUR SPACE | General Information

Company Highlights

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History

AZUR SPACE was founded in 1964 as part of the AEG-TELEFUNKEN group, supporting aerospace design, engineering and manufacturing in Germany. Located roughly 160 kilometers (100 miles) south of Frankfurt International Airport (IATA: FRA) and 70 kilometers (45 miles) north of Stuttgart Airport (IATA: STR). AZUR SPACE is conveniently located in the heart of Heilbronn Germany industrial center, drawing on world-class technology, talent and critical supply chain elements from around the Heilbronn area, from wider Germany and Europe, and around the world.

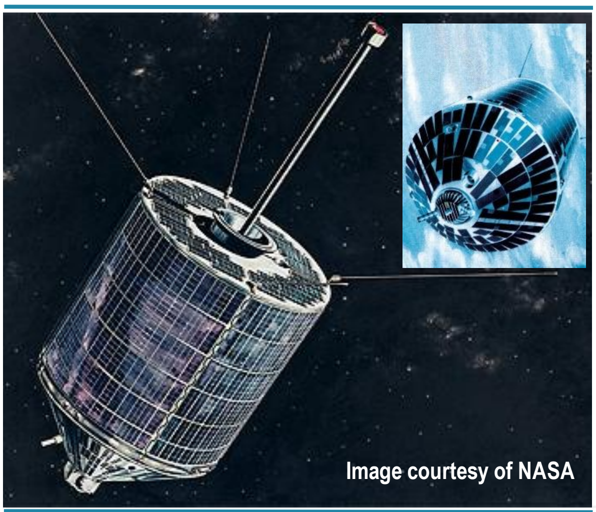

Image courtesy of NASA

In 1965, NASA and the German Ministry for Scientific Research initiated a cooperative space satellite project that would orbit the first German scientific spacecraft to investigate Earth's inner radiation belt as well as study solar particles and aurorae. The mission was called “GRS-A”, an acronym for "German Research Satellite - A". In 1968 "Azur" was chosen as the name for the satellite. The first predecessor company to AZUR SPACE had key components fly successfully on the Azur launch, completing successfully all objectives of that 8-month namesake mission.

AZUR SPACE Solar Power GmbH
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Web: www.azurspace.com

Certified Company
ISO 9001
EN 9100
Environmental Management Occupational Health and Safety Management System ISO 14001 ISO 45001
DEKRA certified

In 1982, AEG-Telefunken was reformed into Telefunken Electronic, which in 1988 was reorganized into Daimler-Chrysler Aerospace. In 1994 ASE (Angewandte Solarenergie) was created. In 2000, RWE acquired the solar power group from ASE, forming RWE Solar / RWE Space Solar Power. Then, in 2007, the name AZUR SPACE was formally adopted as the name of the company in its transition to new ownership within the Generali Group of Trieste, Italy. In November 2021, the 5N Plus Company of Montreal, Canada (TSX: VNP.TO; OTC: FPLSF) completed the acquisition of AZUR SPACE. AZUR SPACE continues to operate today as a wholly owned subsidiary within the 5N Plus family.

Highlights

- **Founded in 1964, more than 60 years ago**
- **100% on orbit mission success**
- **> 6 MW of multi-junction power delivered**
- **> 11 MW total power delivered since 1964**
- **Space Qualified: ECSS, AIAA, EN9100 (AS9100D) and ISO9001 plus ISO 14001 and ISO 45001**
- **Operating 24/7 with more than 350 people**
- **Wholly owned subsidiary of the 5N Plus Company**

Location & Factory

Since 1964, AZUR SPACE has been located in Heilbronn, Germany at the renowned Telefunken Technology Park. Our home in Technology Park allows key supply chain elements to be acquired, serviced and supported from within the fully secured campus. The campus lies in the heart of the Heilbronn, only 10 minutes from the main train station near the beautiful Neckar river.


The City Center in Heilbronn


The City Skyline in Heilbronn

The AZUR SPACE manufacturing facility and related support infrastructure is consolidated in two buildings, over 5 floors and more than 11,000 square meters, including in excess of 4,000 m^2 of state-of-the-art production clean room facilities.


Telefunken Technology Park

Our Metal-Organic Chemical Vapor Deposition (MOCVD) epitaxial growth fabrication work-center houses one of the highest capacity space-qualified and dedicated epi infrastructures in the world. The downstream wafer processing, cell manufacturing and testing facilities are equally capable, semi-automated and staffed with the most experienced and trained associates. Our advanced assembly areas are cutting edge with qualified people and equipment.

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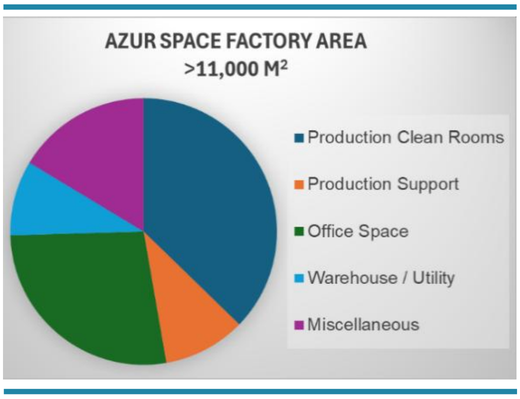
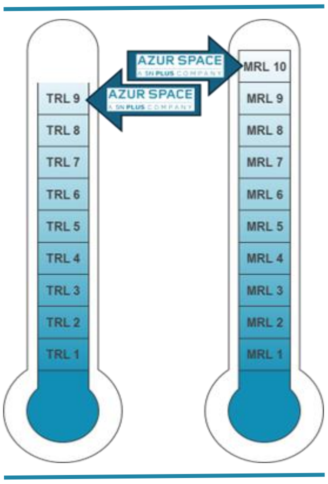
Certified Company

Throughout our factory, AZUR SPACE employs a substantial number of patent protected processes as well as company and trade secret processes. These combine to enable the know-how to manufacture products which have provided 100% mission success to the space power industry.



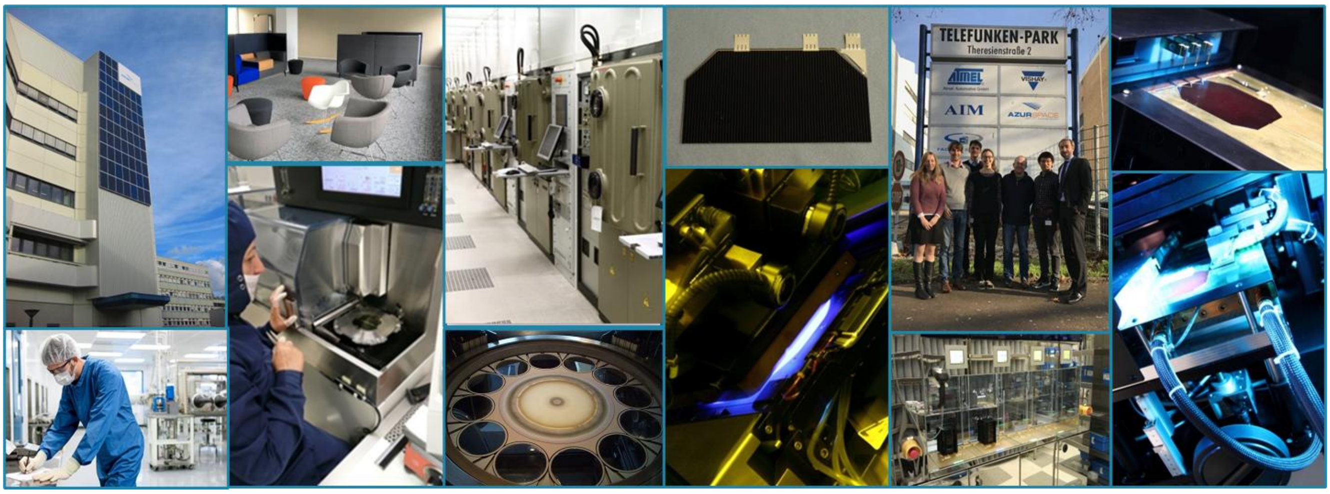
In a 2022 press release, AZUR SPACE announced our intention to grow our capitalized infrastructure to enable a 30% capacity throughput increase. In 2024, AZUR SPACE publicly confirmed the over-realization of this effort, by adding more than 35% to our previously established capacity base. AZUR SPACE regularly assesses the need for further capacity expansions.

AZUR SPACE has achieved the Technology Readiness Level (TRL) assessment of level 9 on the EASA / NASA scale (9 being the highest), including the required two years on orbit without issue or anomaly. This TRL assessment applies to all AZUR SPACE aerospace products, with the singular exception of our newest 4G32-Advanced product variation, which is currently completing formal qualification (currently assessed as TRL of 7). Similarly, AZUR SPACE Manufacturing Readiness Level ("MRL", as developed by the US Department of Defense (DoD)) as a quantitative measure to assess the maturity of high-volume manufacturing readiness has also been completed. The assessment earned by AZUR SPACE is graded as highly mature, earning the maximum score possible of 10, being most mature.



EMPLOYEE HIGHLIGHTS

The average age of an AZUR SPACE employee, as of this publication's release date is 42 years old, with over 9 years of experience at AZUR SPACE. This population of experienced and well-trained people reflects a 55% / 45% male/female ratio. Our employee population includes nearly 8% holding Ph.D. degrees, with an additional 15% holding master's degrees as their highest university degree. An additional almost 40% of AZUR SPACE's employee population holds bachelor's degrees as their highest university level of degree. Finally, another 35% have completed specialized, directly applicable technical training, above and beyond the normal training required for each employee in their individual work center roles.



All AZUR SPACE employees are required and expected to complete relevant company, technical and / or job specific training on a regular basis. The completion of these training requirements is actively planned, monitored and tracked to ensure our workforce is prepared and certified as required.

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VISION, MISSION STATEMENT & CORE VALUES

Vision

AZUR SPACE remains the western based supplier of reference for best-in-class space solar cells while optimizing processes and scale of the company to match the increasing demand.

AZUR SPACE's vision and mission statement reflects our commitment to world-wide market support of cutting-edge products for Space power solutions across space missions, nations and technologies. Our mission statement aligns us strongly with the 5N Plus commitment to the industry.

Mission

AZUR SPACE commits to pushing the economical and technical limits of solar power in space.

Similarly, AZUR SPACE also aligns with 5N Plus core values and these are fundamentally expected behaviors which guide and direct our individual efforts, business goals and organizational objectives across the company.

Core Values

■ Continuous Improvement ■ Customer Focus ■ Sustainable Development ■ Health & Safety ■ Integrity ■ Commitment ■

Please see 5N Plus website (www.5nplus.com) for additional core value information.

ENVIRONMENTAL HEALTH & SAFETY COMMITMENT

AZUR SPACE' commitment to Environmental Health & Safety (EH&S) is to provide an environmentally sound, healthy and injury-free workplace for all our employees, contractors, customers, suppliers, communities and partners. We are routinely assessing and improving our EH&S programs and training scope to increase our focus on enhancement, prevention, early intervention and a culture of environmentally friendly, lifestyle-positive and safe workspaces. We continually strive to enhance our EH&S implementation into our daily businesses and to encourage responsibility for our own and others' safety. As part of our ongoing ISO 45001:2018 certification, we take EH&S seriously by striving to be a global leader in sustainability and environmental protection to enable our customers and others to reduce their environmental impact through our actions, and by continuously reexamining our processes, procedures, materials and technology. We routinely identify key environmental aspects of our operations, mitigating impacts and enhancing our use of circular economy principles (reducing, reusing and recycling).

The Neckar River in Heilbronn, Germany

AZUR SPACE also adheres to the European Sustainability Reporting Standard (ESRS) and continuously strives to meet the objectives of our environmental stewardship as well as our social responsibilities as embodied in ESRS purposes.

AZUR SPACE also follows the Carbon Disclosure Project (CDP) organization standards and guidelines in our continued efforts to understand, measure, manage and report our environmental impacts with targets to reduce the overall AZUR SPACE carbon footprint.

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COMMITMENT TO QUALITY

To ensure AZUR SPACE maximizes the value proposition, we are fully committed to embracing quality as an integral part of our corporate values. AZUR SPACE meets the elements outlined in our Quality Policy through a combination of top management commitment to quality, and everyday processes, policies, regular audits and procedures that incorporate and embrace quality.

AZUR SPACE QUALITY COMMITTMENT

- Focus on the needs of the market and our customers and, in particular, to manufacture innovative products of the highest quality and reliability,
- Uniformly apply relevant corporate values of the 5N PLUS Group and to maintaining a quality management system,
- Maintain an organizational structure that meets requirements and to a learning culture of our organization and our employees that strives for error prevention
- Continuously improve in all production and business processes, including the formulation of specific quality and business objectives and their monitoring,
- Identify and assess risks and opportunities as an approach for all relevant business processes.
- Maintain relevant Quality and Qualification Certifications of industry to ensure we meet organizational and product quality expectations.

Our products have been exceeding our customers' highest standards of quality and reliability for decades. We supply international space projects such as communication satellites and scientific space missions and also serve other global markets, for example in the field of renewable energies. With deliveries of our products, we consistently achieve top scores in our customers' survey rankings, and we strive to only improve this success.

As a key provider of innovative technology, AZUR SPACE is aware of its special importance for its customers. Particularly in the space sector - the main part of our business - but also in all other sectors, our customers rely on our decades-long history of performance and place the utmost trust in us when it comes to the promised delivery, reliability and quality of our products.

AZUR SPACE is also aware of its special role in a sustainable future, particularly with regard to the sensitive resources and special materials used in the development and manufacture of our products. Management, as well as each individual at AZUR SPACE Solar Power GmbH, are focused on the values of our parent company 5N Plus and recognize the importance of quality, integrity and sustainability in our decisions and actions.

We are committed to the actions noted in our Commitment to Quality statement above. In addition, AZUR SPACE fully complies with the requirements, best practices and standards in the following certifications of quality:

- Quality management system DIN EN 9100 of the aerospace industry. This includes the Quality Management System DIN EN ISO 9001 and is the European equivalent of the AS9100D standard.
- Standards of the European Space Agency (ESA) Qualification Certification (ECSS) as well as AIAA's Certification requirements.
- Environmental Management System with DIN EN ISO 14001 Certification.
- Occupational Health & Safety Management System with DIN EN ISO 45001 Certification.

As part of our commitment to quality, AZUR SPACE Solar Power GmbH maintains an Integrated Management System (IMS) which is described more fully below. Additionally, AZUR SPACE holds a variety of in-line quality reviews for products and services ensuring first-time, every-time performance is realized. Ongoing quality involvement with current programs and development efforts keeps focus on embedding quality. Internal scheduled and ad-hoc audits, as well as external third-party quality reviews metric our performance for continuous improvement. Conducting training and ongoing quality education for all associates assures competence, connection and commitment to consistently achieving all facets of the AZUR SPACE Quality Policy.

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DECLARATION OF COMMERCIALITY

As with all AZUR SPACE products, each is deemed to be commercially available, as they are manufactured from designs, processes, procedures and materials that were originally developed and funded by AZUR SPACE. Products of any configuration offered have been sold and delivered, and continue to be offered to numerous commercial, civil and government customers around the world. Multiple independent organizational reviews (i.e., ESA, DLR, NASA and DCMA, etc.) have confirmed this conclusion of commerciality. AZUR SPACE considers all 3G30- and 4G32-based products, including manufactured diodes and interconnectors to be commercial in nature and offers them accordingly.

ADDITIONAL POLICIES, CODES & STATEMENTS

AZUR SPACE, as part of the 5N Plus family, proudly adheres to the following 5N Plus corporate policies, codes of conduct, statements, policies and guidelines. These directives are in place to guide and shape our fundamental behaviors, such that corporate citizenship objectives are achieved.

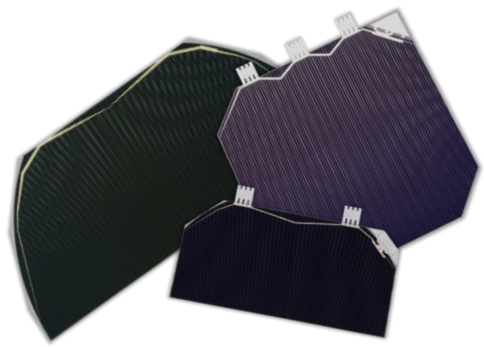
Our 5N Plus Executive Committee as well as the 5N Plus Board of Directors listings are provided as well.

Privacy Policy	Code of Business Conduct	Code of Supplier Conduct
Human Rights Statement	Disclosure Policy	Whistleblower Policy
5N Plus Corporate Governance	5N Plus Board of Directors	5N Plus Executive Committee

The most current versions of the above referenced documents can all be found at the 5N Plus corporate website: www.5nplus.com/en/investors/governance/

STANDARD CONFIGURATION PRODUCTS

AZUR SPACE manufactures space grade Germanium (Ge) and III-V semiconductor based solar cells and assemblies (including Silicon bypass diodes). These technologies are primarily 3G30-Advanced (Triple Junction, "TJ") and 4G32-Advanced (Quadruple Junction, "QJ") class devices. Heritage Silicon cell manufacturing was phased out in the early 2010's as the power density and cost per watt value propositions of Silicon solar cells no longer aligned with our space customers' market expectations or demands.



At www.azurspace.com, the following standard product data sheets can be found and downloaded. These devices are considered our standard product configurations and may be ordered directly by part number. These parts all have existing drawings and documentation available. Although other sizes and configurations are available, these standard products represent best value in the marketplace and have significant production and flight heritage. The typical technical information for the cell-interconnected-coverglassed (CIC) assembly and its subassembly solar cell device, are included in the same data sheet.

Each of these standard part configurations comes in a defined product thickness as specified in the corresponding data sheet. It is possible to modify the thickness of the base Germanium (Ge) substrate, resulting in a thinner or thicker device driving mass and value as required by the specific mission. Reduction in product thickness is the result of additional processing to reduce the remaining Ge substrate. This mass management effort may result in additional processing which may result in additional costs being incurred and reflected in unit pricing relative to the standard products. AZUR SPACE can provide estimates as to specific Ge mass reductions upon request.

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Technology	Ge Wafer Size	Nominal Finished Size	Material (Part) Number	Drawing Number
3G30- Adv.	100 mm 2 – 4x8's per wafer	Cell: 30.18 cm² CIC: 31.13 cm²	Cell: 81441 CIC/ SCA: 81442	Cell: ZP 0004672 CIC/ SCA: ZP 0004289
3G30-Adv.	100 mm 1 – 8x8 per wafer	Cell: 60.35 cm² CIC: 61.46 cm²	Cell: 81780 CIC/ SCA: 81752	Cell: ZP 0005107 CIC/ SCA: ZP 0005109
3G30-Adv.	150 mm 2 – 6x12's per wafer	Cell: 71.25 cm² CIC: 72.65 cm²	Cell: 82858 CIC/ SCA: 82485	Cell: ZP 00010182 CIC/ SCA: ZP 00010133
3G30-Adv.	150 mm 2 – Half-Pipes per wafer	Cell: 77.55 cm² CIC: 78.64 cm²	Cell: 82645 CIC/ SCA: 82643	Cell: ZP 00010472 CIC/ SCA: ZP 00010473
4G32-Adv.	100 mm 2 – 4x8's per wafer	Cell: 30.60 cm² CIC: 31.42 cm²	Cell: 82859 CIC/ SCA: 82358	Cell: ZP 0006924 CIC/ SCA: ZP 0006920
4G32-Adv.	100 mm 1 – 8x8 per wafer	Cell: 60.35 cm² CIC: 61.46 cm²	Cell: 82874 CIC/ SCA: 82875	Cell: ZP 00010867 CIC/ SCA: ZP 00010866
4G32-Adv.	150 mm 2 – Half-pipes per wafer	Cell: 77.44 cm² CIC: 78.62 cm²	Cell: 82860 CIC/ SCA: 82556	Cell: ZP 00010280 CIC/ SCA: ZP 00010279
Adv. = Advanced technology version. CIC size reflects outer Coverglass dimensions; underlying bare cell in CIC/SCA is the same size as the bare cell for that configuration. Interconnects / diode interconnect may protrude beyond the overall outer dimension.				

Please note that CAD / CAM STEP (STP) files for the above assembly level devices as well as high resolution photographs are available upon request.

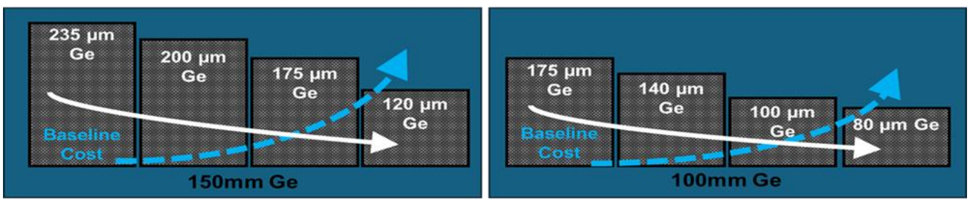
CUSTOM CONFIGURATION PRODUCTS

In the event that the standard sizes reflected in the above standard data sheets do not support the intended mission application, the following data table provides necessary information to allow a more customized analysis to be conducted. Naturally, AZUR SPACE encourages application and use of standard part sizes wherever possible but will support customers with precise product geometric configurations required, recognizing that non-standard part configurations can require longer schedule durations and may incur non-recurring costs.

Different device sizes, grid designs, coverglass thicknesses and/or and coatings may alter these Beginning-of-Life (BOL) and End-of-Life (EOL) performances. Various Germanium wafer thicknesses may also alter stated performance. AZUR SPACE is happy to assist with additional information as required to enable design solutions.

Generic Product Performance Data[1]												
	Bare Cell Data (BOL)						Assemblies (CICs/ SCAs)[2] (BOL)					
Technology	**3G30-Advanced**			**4G32-Advanced**			**3G30-Advanced**			**4G32-Advanced**		
Wafer Size (mm)	100	100	150	100	100	150	100	100	150	100	100	150
Cells per Wafer	2	1	2	2	1	2	2	1	2	2	1	2
Isc (mA/cm²)	17.2	17.2	17.0	14.8	14.8	14.7	17.0	16.9	16.8	14.7	14.7	14.6
V_{OC} (mV)	2700	2700	2700	3415	3415	3405	2700	2700	2700	3415	3415	3405
I_{mp} (mA/cm²)	16.7	16.7	16.5	14.2	14.2	14.2	16.5	16.5	16.4	14.0	14.0	13.9
V_{mp} (mV)	2411	2400	2395	3015	2985	2970	2411	2400	2395	3015	2985	2970
Eff%[3] (@1353 W/m²)	29.8	29.6	29.3	31.6	31.2	31.1	29.5	29.3	29.1	31.2	30.9	30.6
Eff%[3] (@1367 W/m²)	29.5	29.3	29.0	31.3	30.9	30.8	29.2	29.0	28.8	30.9	30.6	30.3
[1] Note that changes in performance data for alternative product sizes may occur. Alternative values available on request.												
[2] CIC values assume 100 µm CMG coverglass. Other coverglass types, thicknesses and/or coatings are available on request.												
[3] All @ AM0 = WRC. 3G30: CASOLBA 2005 (05-20MV1), @ 28°C ±1°C. 4G32: PS_4G32_PTB_2016-09-13, @ 25°C ± 1°C												

Germanium Subcell Thicknesses & Cost



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AZUR SPACE is also able to customize, the 3G30-Advanced and 4G32-Advanced epitaxial stacks such that device BOL or EOL performance can be maximized given the specific mission requirements. More information on this customization and related benefits, as well as BOL and/or EOL values at specific fluences for specific configurations are available upon request. Other device sizes, geometries; other IC types and materials; other coverglass thicknesses, types and coatings as well as alternative diodes are possible upon request.

PRODUCT QUALIFICATIONS & TEST REPORTS

AZUR SPACE embraces external validation of our commitments to Quality through third-party industry certifications. As found at www.azurspace.com, AZUR SPACE currently holds several current industry Quality Management System (QMS) certifications, including ISO9001:2015 and EN9100:2018 (equivalent to AS 9100D and JISQ 9100-2016). Additionally, AZUR SPACE holds ISO14001:2015 (Environmental Management) and ISO45001:2018 (Occupational Health and Safety) certifications.

Third-Party Qualification Certifications				
Certificate	**ISO 9001:2015**	**EN 9100:2018**	**ISO 14001:2015**	**ISO 45001:2018**
Title	Quality Management Systems	Quality Management Systems	Environmental Management System	Occupational Health and Safety System
Comment		*~ AS 9100D (U.S.A.)* *~ JISQ 9100:2016 (Asia)*		
Currently Third Party-Certified	☑	☑	☑	☑
Intent is continuous recertification in advance of expiration.	☑	☑	☑	☑
Actual Certificate Location	Current certificates can be found at www.azurspace.com./Quality_Management			

AZUR SPACE utilizes TÜV SÜD© as our independent, licensed, third-party certifier. We are committed to continuing all current third-party quality certifications and intend to renew each of these certifications prior to their expirations. AZUR SPACE is committed to our quality department as a fully empowered entity conducting internal audits, oversee supplier, customer and industry reviews, as well as to assist and support projects as an integral part of the program teams, ensuring all aspects of quality are fully realized in our products and services.

As a key pillar of quality, AZUR SPACE also conducts formal industry testing for specific product technologies as they are introduced to the market. Within Europe, the specific integrated testing and qualification campaign completed by AZUR SPACE for solar devices is contained within the ECSS-E-ST-20-08C Rev 1 (18-Jul-2012) and Rev 2 (20-Apr-2023). In the United States, testing to AIAA S-111A-2014 plus A1-2019 Amendment 1 (16-Apr-2019) at the bare cell and CIC assembly level has been completed, along with the AIAA S-112A-2013/A1-2019 standard qualification completed by AZUR SPACE customers. AZUR SPACE qualification test reports are available upon request. In some cases, specific configurational test reports are the property of AZUR SPACE customers and may not be shared in full, but summary documentation can be supplied in lieu of full reports.

Qualification Report Library

Technology	Test Regime	Qualification Test Report	Dated	Status
3G28	ECSS-E-ST-20-08C Rev 1	HNR 0002412-01-02	03-Apr-2007	Passed
3G30 (C & A)	ECSS-E-ST-20-08C Rev 1	HNR 0004151-01-01	19-Nov-2014	Passed
Planar Silicon Diode	ECSS-E-ST-20-08C Rev 1	HNR 0004151-01-01	19-Nov-2014	Passed
3G30-Advanced (C)	ECSS-E-ST-20-08C Rev 1	HNR 0003558-00-01	24-Mar-2014	Passed
3G30- Advanced (C)	ECSS-E-ST-20-08C Rev 1	HNR 0004761-01-01	04-Jan-2017	Passed
4G32	ECSS-E-ST-20-08C Rev 1	HNR 0005466-01-01	22-Jul-2019	Passed
4G32-Advanced	ECSS-E-ST-20-08C Rev 1	TR 00005969-01-00	10-May-2019	Passed
Planar Silicon Diode	ECSS-E-ST-20-08C Rev 1	QTR 0005517-02-00	24-Oct-2019	Passed
4G32-Advanced (1)	ECSS-E-ST-20-08C Rev 1	QTR 0005927-01-00 QTR 0006412-01-00	24-Apr-2019 24-Apr-2019	Passed Passed
4G32-Advanced (1)	AIAA S-111A-2014 plus A1-2019 Amendment 1	Multiple (completed by AIAA ¶ section)	18-May-2022	Passed
4G32-Advanced (2) (C&A)	ECSS-E-ST-20-08C Rev **2**	In Work	2Q 2025	In Work

C = Bare Cell; A= Assembly; (1) = 4G32-Advanced, 1st Generation; (2) = 4G32-Advanced, 2nd Generation

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AZUR SPACE is also highly experienced with typical non-recurring (NRE) requirements (kickoffs, drawings, build document preparations, non-recurring analyses, etc.), as well as subcontract/contract data requirements list (SDRL / CDRL) requirements typically utilized (MRR, TRR, Program Reviews, Documentation sets, MPP schedules, EIDPs, etc.) in space power industry contracts. An extended acronym list is available from AZUR SPACE upon request.

INFORMATION TECHNOLOGY SYSTEM OVERVIEW

AZUR SPACE has used Systems Application and Products (SAP®) as our factory's Enterprise Resource Planning (ERP) Information Technology solution since 2009. SAP serves as the backbone for the Integrated Management System at AZUR SPACE, combining planning, materiel management, production planning, quality, sales, finance, controlling and personnel functions. AZUR SPACE benefits from the values provided by SAP, overall system efficiencies, data security, data integration and management, scalability, scheduling, forecasting and integration of inventory control, supply chain management and supporting organization functionality.

NIST®
SP 800-171
Self-Certified
Compliant

AZUR SPACE has also undergone several key independent reviews relating to internal data and cyber-security, specifically the National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171 (Revision 2), to ensure control of unclassified information (CUI) for programs and customers requiring. The AZUR SPACE organization has fully self-audited against the fourteen requirement families identified in NIST SP 800-171 R2 and all 110+ sub-family areas to ensure that our System Security Plan is in place and adequate relative to the R2 standard and its compliance. AZUR SPACE intends to be compliant with future revisions as they become the adopted global standard. The current NIST SP 800-171 R2 compliance matrix is available upon request, showing family and sub-family details and compliance.

AZUR SPACE has also internally completed the Level 1 Cybersecurity Maturity Model Compliance (CMMC) self-assessment. This internal assessment reviews the cybersecurity requirements outlined for FAR clause 52.204-21. AZUR SPACE has completed this review and can confirm our full compliance with the Level 1 CMMC security standard. Additional details are available upon request.

BUSINESS TERMS & CONDITIONS

INCOTERMS
2020

AZUR SPACE' standard business terms and conditions (both for customers and suppliers) may be found at our website, www.azurspace.com. By corporate policy, INCOTERMS 2020 terms, specifying EXW (Ex Works (from our shipping dock in Heilbronn Germany)) is our standard business offering. INCOTERMS 2020 defines buyer and seller responsibilities, including export compliance and responsibility for carriage of goods that are part of the international transport of goods as well as title point of transfer. Other delivery terms are subject to negotiations. Additionally, AZUR SPACE has completed extensive reviews of typical U.S. Government's Federal Acquisition Regulations (FARS) as well as the FAR variations coming from the Department of Defense (DFARS), from NASA (NFARS) and from the Department of the Air Force (AFFARS). Similar familiarity to the Deutsches Zentrum für Luft- und Raumfahrt (DLR), the German Aerospace Center.

EXW

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ISO 14001
ISO 45001

LICENCES, REGISTRATIONS & PRODUCT CODES

AZUR SPACE is recognized to perform business worldwide and is incorporated and registered in Germany to conduct business. The following are the most common registrations, company identifiers and product codes currently used in various contracting relationships around the world. In some cases, 5N Plus corporate identifiers are also provided. AZUR SPACE is committed to holding all current licenses, registrations and coding current, and intends to renew any that may have expirations prior to their current validity window. For additional information, please contact AZUR SPACE directly.

Business Licenses, Registrations and Product Codes		Number	
Germany Business License Registration	Incorporated ("HRB") in Germany ("Handelsregisternummer")	HRB 108212 (Filed in Stuttgart Germany, 12-Jul-2011, last updated 07-Dec-2022)	
AEO	**A**uthorised [SIC] **E**conomic **O**perator Registration Number	108212	
VAT ID	**V**alue **A**dded **T**ax **ID** Number	DE219106283 (Also German "TIN" number)	
DUNS	**D**un & **Brad**street Code	**AZUR SPACE** 331439187	**5N Plus** 251056875
UEI	**U**nique **E**ntity **I**dentifier	**AZUR SPACE** D688CVL6H677	**5N Plus** C7M5MWJKE7S1
CAGE/NCAGE	CAGE = **C**ommercial **a**nd **G**overnment **E**ntity Code. NCAGE = **N**ATO **CAGE** Equivalent	**AZUR SPACE** CE709 / CE709	**5N Plus** L4786
ECCN	**E**xport **C**ontrol **C**lassification **N**umber (U.S.)	3A001.e.4. (U.S. Department of Commerce) 3A001.e.4. (European Export Control) Alternatively 3A991	
CCA	**C**ompetent **C**ustoms **A**uthority	DE009450 (created 07-Dec-2011)	
HTS Product Standardization ID Codes	**H**armonized **T**ariff **S**chedule (U.S. International Trade Commission)	**Bare Cells** 8541.50.00.45 **Discrete Diodes** 8541.40.60.10	**CICs / SCAs** 8541.50.00.35 **Diode Assemblies** 8541.40.60.50
EORI	**E**conomic **O**perators **R**egistration and **I**D Number (EU)	DE4835379	
NAICS	**N**orth **A**merican **I**ndustry **C**lassification **S**ystem	Primary Code: 334413 Secondary Code: 3674	
SIC	**S**tandard **I**ndustrial **C**lassification	36	

EXPORT / IMPORT COMPLIANCE

AZUR SPACE is fluent in applying for required commercial and special import and export licenses and is experienced at navigating international export transactions worldwide. Import and export laws in Germany are highly similar in worldview to those of the United States and other major world markets when considering exportability in relation to the world's political and / or economic hotspots. Similar controls and notification policies are in place in Germany, the European Union ("EU") and the United States. AZUR SPACE products are not on the U.S. Munitions List (USML) and generally meet commercial exportability requirements. Typically, these products fall under EAR99 jurisdiction of the U.S. Department of Commerce, provided no specific controlled U.S. components or technologies are included.

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Certified Company

Within Europe, AZUR SPACE products listed in this information sheet are subject to German and European Union export control regulations. Specifically, the EU Dual-Use Regulation (Regulation (EU) 2021/821), the German Foreign Trade Act (AWG), and the Foreign Trade Ordinance (AWV) apply. A compliance check regarding licensing obligations is mandatory prior to any export. AZUR SPACE is experienced in this compliance check process.

AZUR SPACE has limitations and/or restrictions on exports or subsequent re-exportation of our products to certain countries. The most restricted countries include Belarus, Cuba, Iran, North Korea, Russia and Syria. Separate dual-use controls are also in place for an additional grouping of countries that can be provided separately by AZUR SPACE upon request.

For additional information regarding Export Compliance issues, please contact AZUR SPACE directly.

MULTI-JUNCTION FLIGHT HERITAGE

AZUR SPACE has delivered more than 6 MW of multi-junction based solar power across the globe, used to support hundreds of satellite missions. When including products manufactured prior to 2008 (i.e., Silicon solar products), this heritage grows to more than 11 MW of total power delivered.

The multi-junction deliveries by themselves support more than 800 flights launched and planned. Details regarding launches by multi-junction technology type as well as announced / planned orbits are available upon request from AZUR SPACE.

To date, **no** on-orbit or in space anomalies have been detected, suspected, reported or determined by our customers. AZUR SPACE remains committed to ensuring that every solar device delivered meets or exceeds the stated requirements.

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MILESTONES

Year	Milestone Achieved
1964	AZUR SPACE founded; Silicon space solar cell reached 8% efficiency at AM0
1969	The first German solar-powered satellite “AZUR” was launched into orbit
1974	First multi-crystalline Si solar cell with 10% efficiency at AM1.5
1983	First fully automated terrestrial production line in screen printing technology
1986	High efficiency Si solar cell reached 18% efficiency at AM0
2001	First European triple-junction (TJ) GaAs space solar cell with 25% efficiency at AM0
2007	Name “AZUR SPACE” formally adopted
2008	Triple-junction (TJ) GaAs solar cell with 30% efficiency at AM0
2010	10 millionth Silicon device delivered
2013	Delivers first GaAs/Ge solar cell assembly (CIC) to marketplace
2014	Completed first ECSS TJ solar cell qualification
2015	Demonstrated first Triple-Junction solar cell > 140 cm^2
2017	First Quadruple-junction (4J) space solar cell @32% BOL and 28.7% EOL @1E15, @AM0
2017	First U.S. Government Classified Program Award for TJ cells
2017	Deliver 1 millionth TJ solar device
2018	TJ space cells adapted for LILT conditions Jupiter mission (Low-Intensity-Low-Temperature)
2019	Delivers first GaAs/Ge solar assembly circuits (strings) to marketplace
2020	Certified by independent certification vendor compliant to EN9100:2018 (=AS 9100D)
2021	Delivers flight quantities of SMD 3-junction devices for space application
2021	Acquired by 5N Plus of Montreal, Canada
2021	First commercial 4J devices successfully deployed in space
2022	AIAA qualification for 4G32 solar cells completed
2022	Announces +30% capacity investment
2023	Quadruple-junction space solar cells 4G32C-Advanced on 150 mm substrates
2023	Delivers 4 millionth GaAs/Ge solar device
2023	Adds additional EPI capabilities to become world’s largest space qualified EPI fab
2024	3G30 LILT cells fly to Jupiter with JUICE mission (ESA) and Europa Clipper mission (NASA)
2024	Completes and announces achievement of +35% capacity increase
2024	AZUR SPACE celebrates our 60th year in the space power industry

AZUR SPACE ADVANTAGES

- Trusted global developer, manufacturer and marketer of leading-edge space solar power products.
- Market leader in space grade design, production and deliveries of space grade solar power products.
- Strong R&D capabilities and world-class technical team driving decades of innovation and mature manufacturing experience and robust technologies and processes.
- Sourcing advantage via global presence and upstream supply chain connectivity.
- Key in-house / on-campus capabilities (interconnect manufacturing, diode wafer implantation and equipment servicing).
- Continuous investment in capacity expansion to support long-term customer space power needs.
- True partner to our customers and suppliers, with emphasis on long-term relationships, mutual success and commercial excellence.

THE END

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