

CONNECTING BEYOND HORIZONS

Your ground segment technologies partner

Empowering global connectivity through **advanced
multi-technology solutions**

AVIA
SOLUTIONS

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Crafted in Europe, delivered worldwide

Elevating excellence

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CELESTIA

European group of multi-technology companies



Our group companies operate **across the globe but share a common purpose.** Together, we exist to lead the **continuous search for cutting-edge solutions** with reliable, affordable, European made high technology.

About us

Put simply, we connect ground to space, producing reliable solutions to communications challenges.

We are creating turnkey communications solutions for a **worldwide market**.

For over 25 years, our business has been synonymous with world-class innovation, quality and engineering excellence with a customer focus.

We deliver technology products, systems and services to our partners across the **aerospace, defence, satellite, scientific and IoT sectors**.

Global in reach, our **multi-disciplined teams** create smart responses to communications challenges using new ideas, new technologies and new ways of thinking.

We have the backing of **Waterland Private Equity** accelerating our growth ambition.

We have a strong heritage in partnering with businesses and international space agencies from development to commercialisation in a wide range of key enabling technologies.

We are built to innovate

Where we are

We have design, manufacturing and testing facilities in Spain, the Netherlands, Belgium, France and the UK.

European team working together as one. Our European origins bring a legacy of quality craftsmanship to the global stage, offering solutions that are regionally rooted but internationally recognised.

Our engineering and production facilities are located in **six different countries across Europe**, putting us within close reach of our customers. **Crafted in Europe, delivered worldwide**

Solutions for commercial & institutional markets

Satellite Ground Stations

System Engineering, Ground Station
Equipment, Test Systems, Monitoring &
Control Solutions and Radar Systems.

Celestia can deliver Satcom, TT&C and
Earth Observation ground stations
for institutional programmes and
commercial and defence applications.

A product line of flexible, scalable and
robust **M&C Solutions for complex
infrastructures.**



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Modems

Wide product portfolio of baseband modems for TT&C, Earth Observation, ULS-Galileo. Unique Optical Modems.

Other baseband systems such as a **Software Defined Radio (SDR)** platform are also available.

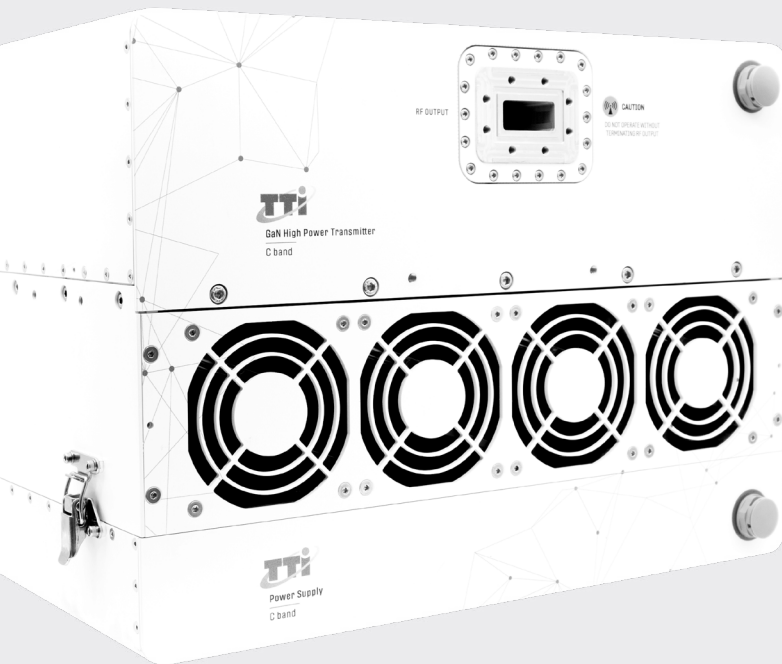
**High speed modem
portfolio for commercial,
scientific and defence
applications**



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Celestia has a unique product line of high-power amplifiers based on GaN technology



SSPAs (Solid State Power Amplifiers)

A wide product portfolio based on GaN technology, from tens of Watts up to kW's, covering very low frequency bands up to Q band.

Hundreds of GaN SSPAs deployed in the field in very demanding sectors.

Proprietary and unique technologies including high efficiency power combination techniques, multicarrier operation solutions for maximising the linear power and efficiency for aerospace, broadcast, spaceborne, radar, science and 5G.




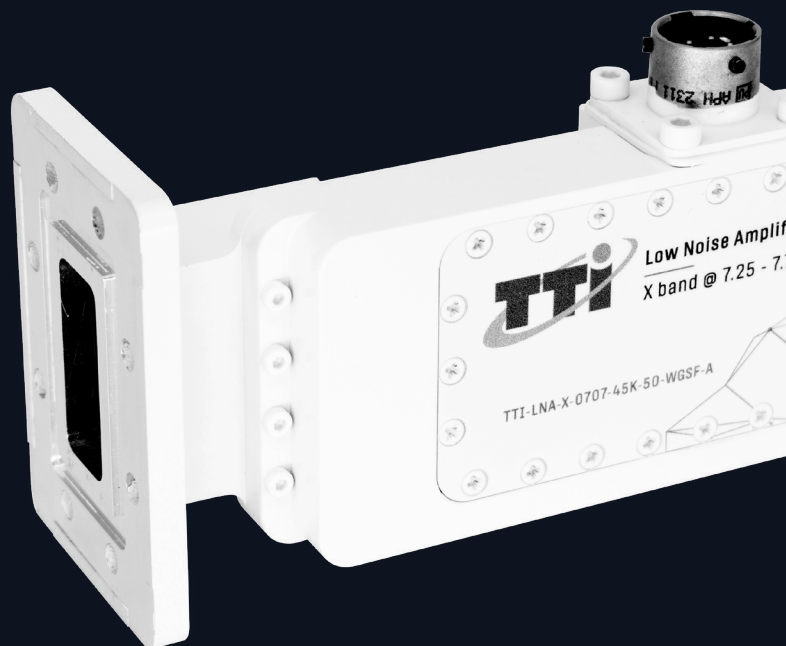
LNAs (Low Noise Amplifiers)

A product line of Low Noise Amplifiers (LNAs) for Satcom reception and Earth Observation.

A wide range of **low noise amplifiers** and **low noise block downconverters** with outstanding performance in terms of noise figure, delivered standalone or in redundancy configuration.

Frequency bands from S to Q band

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**From single flat apertures
to a pyramid of several
faceted structures**

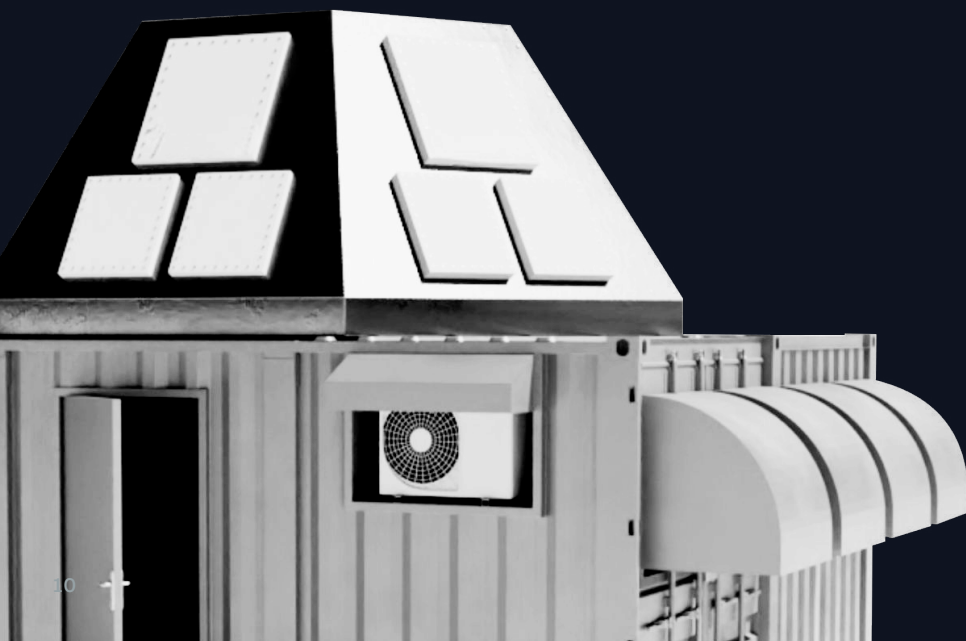
Electronically Steered Antennas

Groundbreaking technology based on beam forming technologies capable of tracking multiple satellites simultaneously, optimising capital investment.

Satellite Gateways for LEO and MEO constellations, ground stations for TT&C and Earth Observation and User Terminals for air and spaceborne applications.



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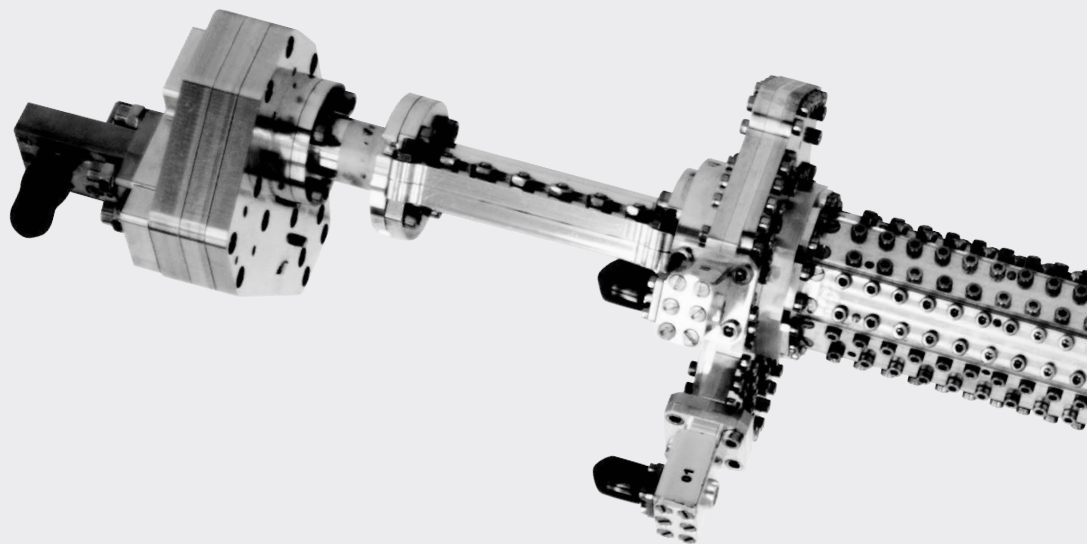


Passive RF Components

Different types of antenna feeders, probes, horns, polarisers and Orthomode Transducers (OMTs), from UHF to millimetric frequency bands.

A wide portfolio at **different frequency bands** for **SATCOM**, radio astronomy or antenna testing applications.

Custom solutions adapted to customer requirements



The use of cryogenically cooled LNAs can provide improved ground station G/T at a fraction of the cost of increasing the antenna diameter

Cryogenic Systems

Ultra-low noise cryogenic receivers, a wide portfolio of cryogenic LNAs and “compact” cryo- LNA system using a zero-maintenance cryo-cooler.

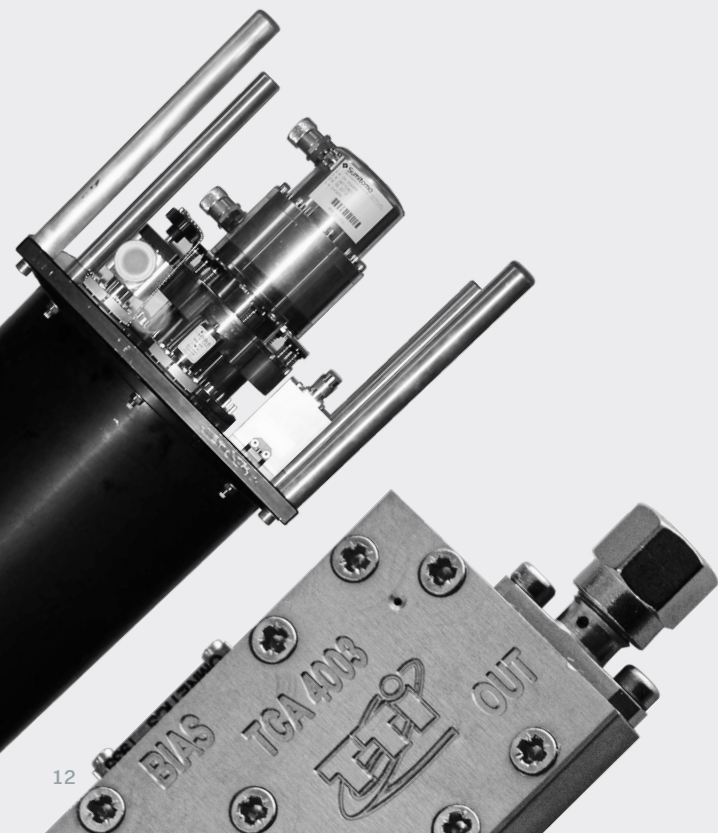
Ultra low noise cryogenic receivers, a wide portfolio of cryogenic LNAs and “compact” cryo-LNA systems using a zero-maintenance cryo-cooler ultra low noise receiver with patented technology for **deep space communications, radio astronomy and VLBI applications.**

A low cost compact cryo-LNA system for **satcom.**

A large portfolio of **cryogenic LNA modules** with thousands of units delivered for **radio astronomy and quantum computing.**



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Satellite Test Systems

Electrical Ground Support Equipment (EGSE) are tools used by satellite and subsystem manufacturers and integrators to test and validate electrical functions of the satellite on the ground before launch.

EGSE consists of **hardware and/or software elements** that perform satellite testing by simulating the interfaces of missing (sub-) systems to assure full compatibility once integrated within the overall platform.

This includes both satellite onboard elements as well as external elements related to communications.

We can supply individual electrical ground support equipment (EGSE)

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A product line of IoT devices

IoT (Internet of Things)

IoT products for Industry 4.0, Agrifood, Smart Water and Smart Metering.

Smart Water IoT gateways allowing readings of up to 50 different water meters. Level Management devices that monitor the level of liquids, bulk or other solids. Fill level sensors for bulk containers.

Optical Smart Sensors that use optical sensing technology to measure the fill level of waste bins and monitor the temperature inside.

Smart Agrifood temperature probe. Indoor precision location systems capable of learning and correcting the location of the subjects in workplaces.

GPS Tracker for assets, people and livestock tracking.



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It's a dynamic environment where our people are close to the action and develop their careers

Our business is growing rapidly and we are looking for ambitious, creative people to join us.

Our teams work in different European locations on exciting projects at the cutting edge of technology.

Why us?

We encourage accountability, self-motivation and a solution-driven approach which in turn fosters creativity and innovation. We want our people to be curious, create and anticipate change.

And teamwork is all - important - we work as one team to support our customers whilst we support each other





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RF, Antennas & Ground Stations

**High Power GaN SSPAs,
Radiofrequency Systems,
Spaceborne SSPAs, Antenna
Technologies & Turnkey
Ground Stations**

We provide **cutting-edge radiofrequency, antenna and ground stations** solutions for satellite communications based on the most advanced technologies, with an extensive portfolio of products and services tailored for broadcast, aerospace, radio astronomy, deep space, science, government and security customers.

With over 25 years of specialist experience, a 100-strong team based in Spain and a wide range of collaborators elsewhere, we are a **highly technological, innovative engineering company** meeting the technology needs of our customers around the world.



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Solutions for Satellite Testing & Operation

Bespoke Electrical Ground Support Equipment, TT&C & Optical Modems for Spacecraft AIT & Operations

We provide ground-based solutions in the domains of **satellite simulation, testing, communication and data processing.**

We have more than 30 years of experience in the space industry, supplying **satellite test, simulation and RF/Optical Modem equipment.** We have delivered over 350 EGSEs and modems to space agencies, large system integrators and specialised flight equipment manufacturers and operators around the world.

Our EGSE solutions have been used in more than 80% of all **European Space Agency** missions.



G/T Booster for Ground Stations

**Cryo & Ambient LNAs,
Cryo Engineering, Thermal
(Cryo) Cycling, RF Design &
Prototyping, Wire Bonding
Services**

For over 25 years, we have been creating advanced **high-performance front-end** solutions for ground station manufacturers and operators that enhance the performance of radio antennas large and small.

Working with international space agencies, radio astronomy and defence customers, our offer includes the **design and manufacture of ambient and cryogenic** Low Noise Amplifiers to boost G/T, **Cryogenic engineering and design services** as well as RF integration and consultancy.



Satellite Ground Communications

Design & Implementation of Modems for TT&C, EO & Galileo ULS, of Test Systems & of Ground Stations

With over 60 years' experience in the space sector, we provide **solutions in full turnkey Earth Observation or TT&C ground stations.**

Solutions are built on proven expertise in satellite communications and our own high-end product range of **Earth Observation and TT&C modems** in combination with wide band digitisers.

We also develop turnkey projects involving payload and **TT&C satellite test benches (EGSE, SCOE)**, providing systems to test the complete RF chain of the satellite before it is launched into orbit.



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CELESTIA | C



High Throughput Multibeam Gateways

Phase Array Antennas for LEO/MEO Constellations, TT&C & EO Stations & User Terminals

Celestia pioneers innovative technical solutions tackling complex challenges in very high throughput **satcoms** for the **communications, earth observation, PNT and TT&C** markets.

Leaders in **electronic scanning antennas systems**, the business' expertise encompasses **antenna design, phased arrays, satcom gateways, RF, digital signal processing, comprehensive system design, and specialised software for satellite communication systems.**

Celestia emphasises technical superiority and cost-efficiency, focusing on **satellite communications, 5G and position navigation and timing** sectors.



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Internet of Things

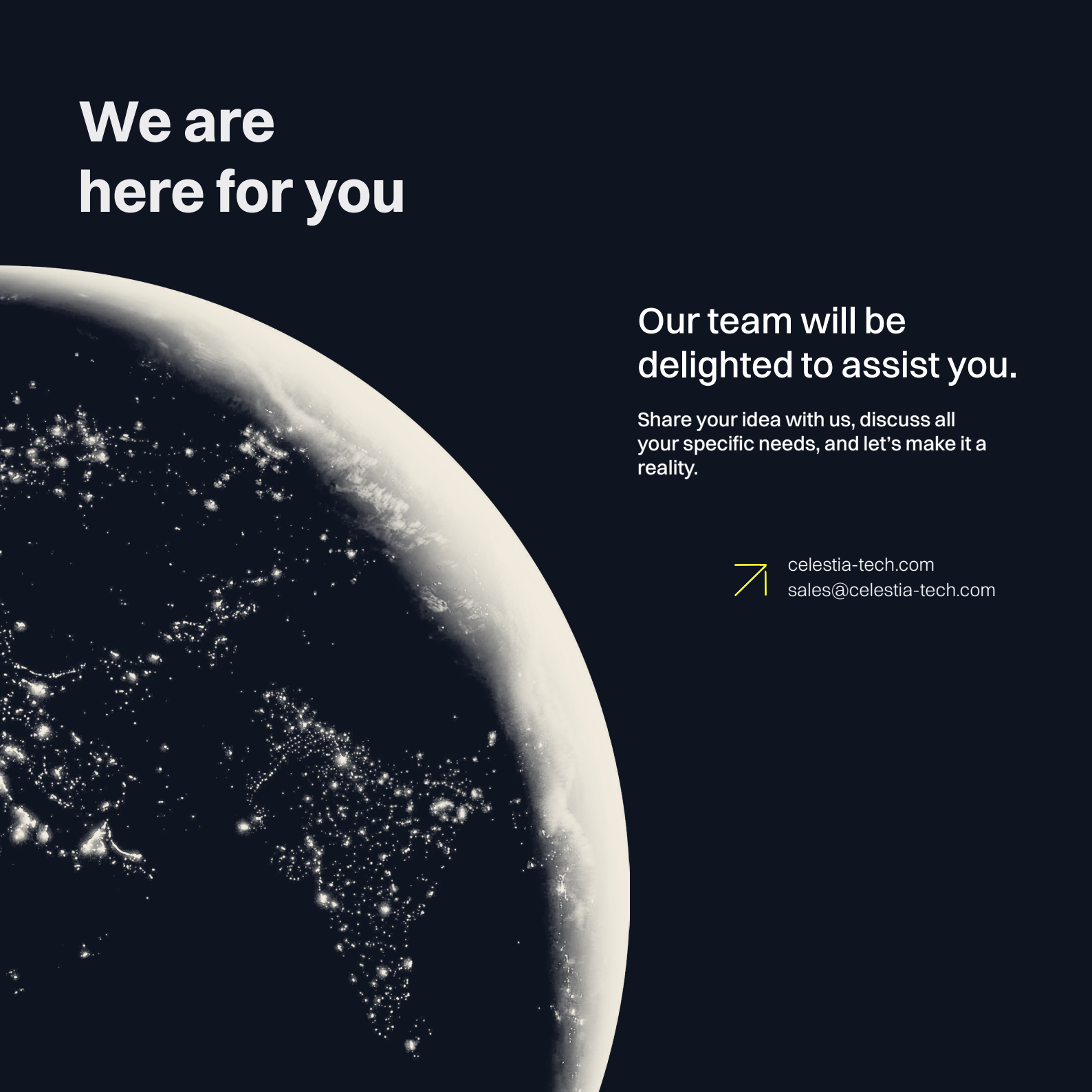
Manufacturing and industrialisation of IoT custom products, meeting the most demanding requirements of customers in the markets of Industry 4.0, Agrifood, Smart Water and Smart Metering

We are a highly qualified engineering team with strong expertise in **electronics design, sensors integration and wireless communications**.

With more than 10 years within the IoT ecosystem, we have extensive experience in the **design, manufacture and commercialisation of IoT custom products**, meeting the most demanding requirements of customers in the markets of **industry 4.0, agrifood, smart water and smart metering**. We are our customers' technology partner making their ideas a reality.

CELESTIA





We are here for you

Our team will be
delighted to assist you.

Share your idea with us, discuss all
your specific needs, and let's make it a
reality.



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