▼ TRANQUIL

ALL TERRAIN IT

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Tranquil is a UK based company founded in 2003, which was formed on the vision that PCs should be more reliable and produce less noise.

Our expertise

Tranquil specializes in the field of rugged, low energy IT systems - providing a range of innovative solutions, bespoke models and portable data centers.

Our products offer high reliability and achieve outstanding performance in various applications and demanding environments with **little to no maintenance**.

Tranquil's solutions are **compact and easy to transport**. The aluminium chassis for our solutions are built for the **harshest environments**.

The level of protection of our products is upheld by our PCs being **fanless** and having **no moving parts**. **Dust or dirt** is no longer a problem for Tranquil's products making them a **durable and reliable** choice in situations where normal PCs would fail.

Designing the products that suit your needs

With over 15 years of experience our tailor made approach allows us to help in the development and the production of our products. Developing **bespoke designs** is also part of our company DNA: we have the transparent ambition to meet our **clients' unique needs**, thanks to the close relationships with customers, external partners and suppliers.

With powerful platforms that use the innovative processing solutions provided by both Intel® and AMD, our range is extensive. We aim for flexibility and responsiveness to changing trends with a **fast technology adoption strategy**. As a member of the 2CRSi group, we benefit from an advanced access to the newest technologies available on the market, thus leveraging our substantial development resources to shape them into solutions.

We take great pride in creating our systems and it is important to us that our partners are completely satisfied with their products and services.

MADE IN BRITAIN

QMS® ISO 9001 : 2015 REGISTERED
Certificate No:328902019

Partnerships

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We have established close relationships with strong partners. They help us by offering solutions to further our business goals as well as develop new technologies to build our portfolio.

Our esteemed partner Grassfish are world leaders in digital signage in the retail sector: dedicated and innovative, they aim to provide thought leading solutions to the players in those industries. Together, we develop and deliver our IT solutions to these markets.

Clients that have trusted us

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Your industries, environments and applications

Tranquil provides reliable and powerful industrial PCs that achieve innovative performance in various industries, environments and applications.

Industries

- Medical & Healthcare
- Manufacturing
- Energy
- Defense & Government
- Advertising & Media
- Automotive & Transportation
- Maritime & Offshore

Environments

- Office
- Sterile or high hygiene requirements
- Heavy dust / oil / saline
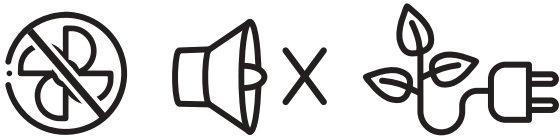- Extended temperature range
- Shock and vibration
- Space-constrained

Applications

- Digital Signage
- Security and surveillance
- HMI (Human Machine Interface)
- Embedded IT
- Desktop & Administration

Key benefits
of fanless PCs

Fans are the most common way to remove the heat generated by electronic components. There are numerous advantages to fanless computers.

Tranquility

Eliminating fans means we can **eliminate noise**.

Sustainability

Without fans, power consumption is automatically decreased. Maintenance decreases drastically and therefore the failure rate is reduced. This results in a longer lifespan than most other industry-built PCs, ultimately giving the product a lower **TCO** (Total Cost of Ownership).

The aluminium used for the chassis production is repurposed and recycled and the waste aluminium throughout production is also recyclable, making the whole process **highly sustainable**.

No Failure Caused By External Debris

Typical fanned PCs can draw in dust and dirt from the environments in which they operate, potentially causing them to fail and cause costly downtime. Using a fanless computer eliminates this risk.

Limited Maintenance

As they have no moving parts, fanless computers eliminate a potential mechanical breakdown, as well as the downtime and damage to electronic components that can come with it.

Shock and Vibration Resistance

The absence of moving parts makes our solutions even more rugged: enabling resistance to **shocks and vibrations**.

Portability and Location Flexibility

Shock-proof fanless computers can be placed in situations where normal PCs would fail. From a sterile operating room in the medical industry to harsh out-at-sea conditions, they can tolerate the exposure to **demanding applications** and **extreme elements**.

User-centric rugged products

Rugged hardware is designed to operate in extremely harsh environments and conditions.

Our experience and clients' feedback guides our development process: we start by meeting a specific need for a rugged device. Then, we improve our solution, bringing us to solve the demands of new customers.

The key is experience and expertise. We listen to our customers and translate their issues into products that work in increasingly harsher environments, thus reaching higher IP ratings.
Our latest product is therefore rated IP66.
Following years of designs and customer input, our unique expertise is the groundwork upon which we will continue to build the next generations of rugged products.

The most common way to evaluate the level of protection againts the environment offered by the products is the Ingress Protection (IP) rating, a system classifying the degrees of protection against both solids and liquids in electrical enclosures.

The rating consists of a two-digit number published by the International Electrotechnical Commission (IEC) / equivalent European standard EN 60529.

IP First number - Protection against solid objects

0	No special protection
1	Protected against solid objects over 50mm e.g. hands, large tools
2	Protected against solid objects over 12.5mm e.g. hands, large tools
3	Protected against solid objects over 2.5mm e.g. wire, small tools
4	Protected against solid objects over 1.0mm e.g. wires
5	Limited protection against dust ingress (no harmful deposit)
6	Totally protected against dust ingress

IP Second number - Protection against liquids

0	No special protection
1	Protected against vertically falling drops of water or condensation
2	Protected against falling drops of water, if the case is disposed up to 15 from vertical
3	Protected against sprays of water from any direction, even if the case is disposed up to 60 from vertical
4	Protected against splash water from any direction
5	Protected against low pressure water jets from any direction. Limited ingress permitted
6	Protected against high pressure water jets from any direction. Limited ingress permitted
7	Protected against the effect of immersion between 15 cm and 1 cm
8	Protected against long periods of immersion under pressure

In-house capabilities:
Product design...

With over 15 years of experience in the design and manufacturing of custom IT equipment, Tranquil has grown its in-house production facilities and services to better support clients.
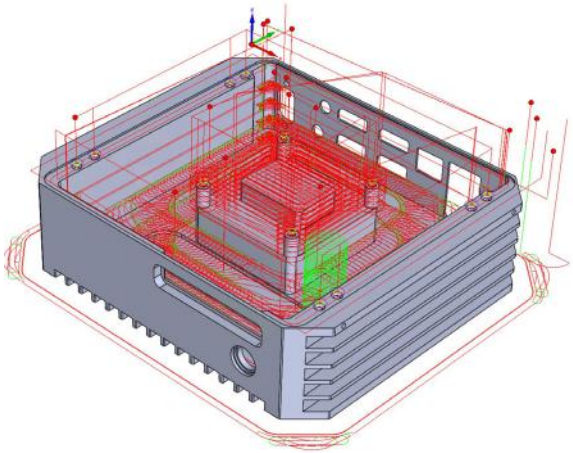
We invested in our own engineering and manufacturing facilities in order to create our own chassis entirely within our Manchester based factory. First, raw aluminium billets are precisely CNC-milled. Hand finished, anodised and laser etched, they are then assembled into a final unit, before being tested and validated, ensuring it will be functional in its intended environment.

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1 Standard Product Specifications or Custom Design

Be it proof of concept or full production runs, Tranquil PC can help.
Using our in-house services, we excel in turnaround time and have control of both manufacturing and the quality standards of our products.

Specific to OEM
Send us your design specifications and we will provide you with our expert opinion on how we can help you.

Specific to OEM
When you are happy on our joint proposal we will get to work with CAD.
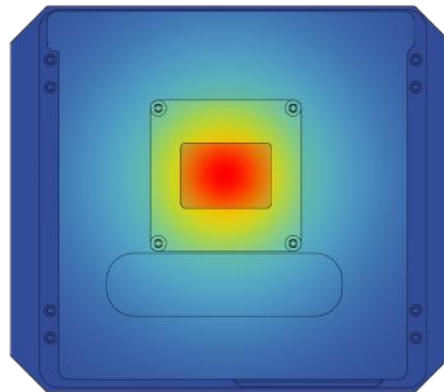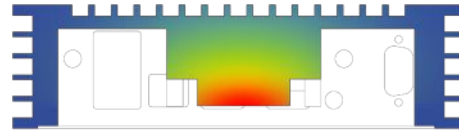
… and simulation

Fanless computers cool based on the principle of conduction. The concept is to put heat-generating components in contact with a heat sink, so that the heat created by the electronic components flow through it and eventually into the surrounding air.

Our bespoke chassis were specially developed to passively dissipate heat. The engineered ridges of our aluminum products increase the total surface area exposed to the air and enable efficient heat dissipation.

2 Concept validation and Simulation

Our in-house designers provide assistance in the conception and advanced simulation: our expertise allows us to quickly adapt the design of our cases to ensure the best heat dissipation while meeting technical requirements.

The use of Computational Fluid Dynamics (CFD) simulation then validates the construction of our products.

Specific to OEM
We then use advanced CFD simulation tools to check if your product meets your requirements.

In-house capabilities:
Production...

Having all the processes in one place ensures the manufacturing possibilities are respected and understood at the point of design, for a smooth transition from concept to product.

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3 Highspeed CNC Milling

Next, the model is processed within our computer aided manufacturing software, before being processed by our CNC milling machines to produce the product to precise tolerances.

4 Brushing and Anodising

We use advanced brushing and anodising techniques to ensure quality protection and to generate the distinct look of our products.

Specific to OEM
After the milling, your first off is ready.
This is where we will anodise it.

... and services

We pride ourselves in providing and conforming to the highest standards of quality.
That's why we have been awarded with the ISO 9001 accreditation.

QMS® ISO 9001 : 2015 REGISTERED
Certificate No:328902019

5 CNC Laser Etching

Our CNC laser engraving machine is an innovative tool used to create high contrast markings without harming the product's finish.

6 Product Assembly, Testing and Associated Services

During assembly, we integrate the electronic components and test the product at multiple stages to ensure its reliable functionality, before being carefully packaged and dispatched from our factory.

Specific to OEM
Once your OEM sample is finished, meeting your specification and standards, your approval preceeds mass batch production.

Portfolio overview

Our fanless portfolio comprises several products meeting the demands of various industries, environments and applications.

Rugged
Our professional and industrial grade rugged computers are perfect for embedded use. With their IP50+ protection, these compact systems are designed to withstand up to the harshest commercial and industrial environments.

Fanless, noiseless, maintenance free
Our units are maintenance free and noiseless thanks to their fanless design and use of non-moving parts.

Extended temperature
Our chassis are innovative and unique: milled from raw aluminium, the units are optimized for efficient cooling and durability and offer reliability with extended operating temperatures.

Rugged Servers

• Rugged Server - Intel® Xeon® Server - IP50

Rugged Computers

• Mini Rugged - AMD Ryzen™ Embedded Quad Display - IP51

• Mini Rugged - Intel® 7th Gen Mobile - IP51

•Mini Rugged - Intel® 7th Gen Mobile - IP66

• Slim Rugged - Intel® 7th Gen Mobile - IP51

• Slim Rugged - Intel® 7th Gen Mobile vPro - IP51

• Compact Rugged - Intel® 7th Gen Mobile - IP51

Specifications overview

	Rugged Server - Intel® Xeon® Server - IP50	Mini Rugged - AMD Ryzen™ Embedded Quad Display - IP51	Mini Rugged - Intel® 7th Gen Mobile - IP51	Mini Rugged - Intel® 7th Gen Mobile - IP66	Slim Rugged - Intel® 7th Gen Mobile - IP51	Slim Rugged - Intel® 7th Gen Mobile - IP51	Compact Rugged - Intel® 7th Gen Mobile - IP51
Part number	RS-XDS-50	MR-R1EQD-51	MR-7MSL-51	MR-7MSL-66	SL-7M-51	SL-7MV-51	CR-7M-51
Fanless	✓	✓	✓	✓	✓	✓	✓
IP protection level	IP50	IP51	IP51	IP66	IP51	IP51	IP51
Operating Temperature	10°C to 35°C (50°F to 95°F)	0°C to 30°C (32°F to 86°F)	-15°C to 50°C (5°F to 122°F)	-15°C to 50°C (5°F to 122°F)	-10°C to 30°C (14°F to 86°F)	-10°C to 30°C (14°F to 86°F)	-10°C to 50°C (14°F to 122°F)
Non-op Temperature	-40°C to 70°C (-40°F to 158°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 70°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 158°F)	-20°C to 70°C (-4°F to 148°F)
Certifications CE / others	CE ✓RoHS compliant	CE ✓RoHS compliant	CE ✓RoHS compliant	CE ✓RoHS compliant	CE ✓RoHS compliant	CE ✓RoHS compliant	CE ✓RoHS compliant
Chassis dimensions (h x w x d)	75mm x 221mm x 335.5mm	49mm x 180mm x 157mm	49mm x 208mm x 180mm	60mm x 208mm x 263mm	30mm x 200mm x 112mm	26mm x 200mm x 114mm	53,5mm x 185mm x 113mm
Weight	4.8kg	1.7kg	2.4kg	3.4kg	1.02kg	1.1kg	1.45kg
Processor	**Intel® Xeon® D1521 Intel® Xeon® D1541**	**AMD Ryzen™ Embedded V1202B AMD Ryzen™ Embedded V1605B**	**Intel® Celeron® 3865U Intel® Core™ i3 7020U Intel® Core™ i5 7200U Intel® Core™ i7 7500U**	**Intel® Celeron® 3865U Intel® Core™ i3 7020U Intel® Core™ i5 7200U Intel® Core™ i7 7500U**	**Intel® Celeron® 3865U Intel® Core™ i3 7020U Intel® Core™ i5 7200U**	**Intel® Core™ i5 7300U**	**Intel® Celeron® 3865U Intel® Core™ i3 7020U Intel® Core™ i5 7200U Intel® Core™ i7 7500U**
Important features	Half rack form factor	Powered by AMD Multiple display ports	Powered by Intel® Core™ up to i7	Powered by Intel® Core™ up to i7 IP66 rating	Ultra small	Ultra small vPro® technology	Powered by Intel® Core™ up to i5

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