

▼ TRANQUIL Studio | 2CRSi Edge

THE SLIM RUGGED: PERFORMANCE CONDENSED IN 26MM FOR UNINTERRUPTED DIGITAL SIGNAGE IN ELEVATOR!



One of the world leaders in the field of elevators, escalators and moving walkways, was looking for a device that was able to fulfill their technical requirements in terms of performance and was compliant with the physical restrictions linked to the limited space available in an elevator cabin.

In cooperation with Grassfish Marketing Technologies, provider of the leading digital signage experience platform, Tranquil Studio was able to develop a solution that was not just an acceptable compromise but fully met the client's expectations in all aspects.

As a specialist in their field of activity, Grassfish's customer has a very in-depth technical understanding of its use case and of all the constraints involved. What was needed was a physical hardware solution which could power a screen in an elevator for digital signage applications, whilst delivering the performance required by the Grassfish software. The Grassfish content management system was already used in conjunction with specific pieces of hardware, which were not meeting all the criteria. This use case implied that the system would be put behind the elevator screen, outside the elevator cabin, within an available thickness of just 26mm. This requirement clearly made space a major constraint!

In addition to being put in this unusual environment, the product needed to be low maintenance, whilst ensuring reliability and performance in the long run, the goal being to prevent any downtime of the advertisement in the elevator caused by a computer failure. Until then, despite testing other solutions, the expected reliability required by the customer had not been reached. Also, a remote management option was required within the system to ensure the monitoring of the whole estate of the systems.

"Our standard range wasn't suitable. They [the customer] needed something a little more unique, not just to our from our range, but just unique on the market."

Phillip Thompson - CEO at 2CRSi Edge

The relationship became triangular when 2CRSi Edge and Grassfish started collaborating with the customer on the development of a specific product solution.

THE SLIM RUGGED

Based on the customer's needs, on Grassfish's experience with the client and with their own software requirements, and capitalizing on 2CRSi Edge background in hardware, the Slim Rugged was developed:



Front side



Rear side

The "Slim Rugged" which was developed for this project is fanless, which means that wherever it is used, silence is guaranteed. Without fans, the power consumption is also reduced, making it more sustainable and limiting the need for maintenance!

With 2CRSi Edge products, fanless and performance go together: the Intel® i5 chip powering the system can be passively cooled in an efficient way thanks to the milled aluminium chassis and innovative heat pipe solution.

Here, the challenge was to ensure optimal heat dissipation despite a reduced surface area: compared to a standard Tranquil IT product, the tiny footprint of the Slim Rugged saw a reduction of 60% of the normal surface area ensuring passive cooling. The product is only 26mm thick, as it was designed to sit flush behind a screen in an elevator cage.

FANLESS



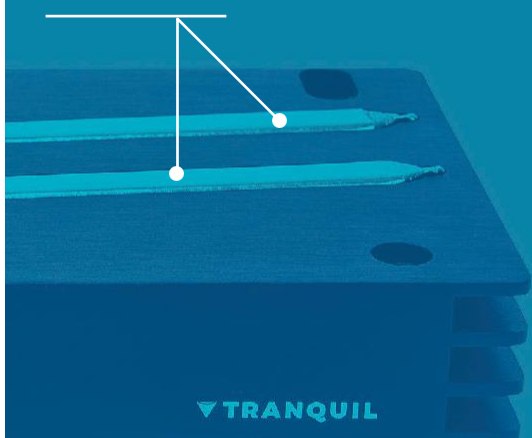
SUSTAINABLE



PASSIVE COOLING

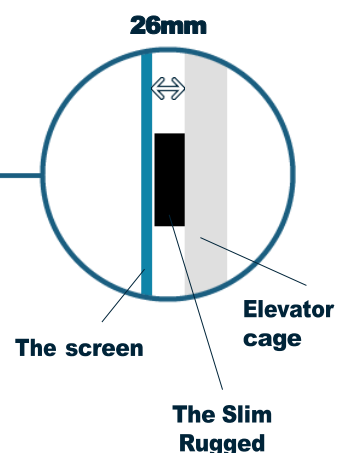
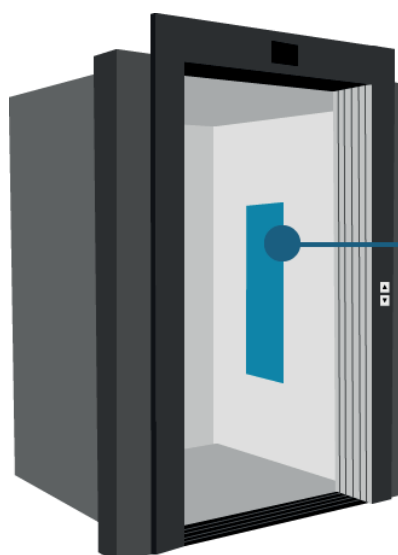


HEAT PIPES



ELEVATOR

BEHIND THE SCREEN



To make up for the loss of surface area usable for passive cooling, four heat pipes were integrated to the system to ensure optimal heat dissipation without compromising performance.

The Slim Rugged is also rated IP51, meaning that it guarantees a good level of protection against dust ingress without being completely sealed, and that the product is protected against vertically falling drops of water or condensation.

This rating, based on the European standard EN 60529, is the most common way to evaluate the degree of protection of products against the environment (level of protection against the ingress of solids and liquids in electrical enclosures).

In addition to integrating an Intel® motherboard, this system also includes vPro: a premium feature from Intel®, allowing monitoring and remote management at hardware level, independently from the software installed on the device. It is a very useful feature, which is adding to reliability: it makes it possible for the user to monitor the whole estate of systems, if they are all turned on or if there is any issue with them.

As required by the customer for use in fire elevators, additional tests in a thermal chamber were run by Tranquil Studio to validate the fact that the product, which was created to prove reliability in extended operating temperatures, would keep running without failure during use at a 50° temperature for 5 minutes.

Once the product was validated by Tranquil Studio from a manufacturing point of view, it got tested and validated by Grassfish from a software standpoint to ensure a fully running solution for the customer.

After 3 to 4 weeks of joint work on this proof of concept, the first sample was delivered to the customer.

Reactivity and adaptability were conjugated at the benefit of the customer, who was provided a bundled-up solution integrating Grassfish software and Tranquil Studio hardware.

Such a quick turnaround would not have been achievable without 2CRSi Edge local manufacturing capabilities. Indeed, Tranquil Studio UK based industrial tool combined with its expertise allowed for rapid prototyping, with no extra costs linked to tooling requirements.

The fanless Slim Rugged does not draw in dust and dirt from the environment, the cause of potential failures and costly downtime. This is particularly important in digital signage where a loss of advertising means loss of revenue!

With this solution, the customer benefits from an increased reliability, which is based on the increased “tranquil-ity” this system provides, and this in several ways:



First, it can turn out to be a challenge to rely on your device when you are putting it in an unusual environment for a PC... like the top of a running elevator!



Second, in addition to not being placed in a space which is cleaned on a regular basis, a product placed above an elevator is likely to constantly being submitted to vibrations, which is something that 2CRSi Edge products are prepared for thanks to their robust aluminium chassis and to the absence of moving parts, which ensure greater resistance through time.



Third, Tranquil Studio in-house designed and milled aluminium chassis is also optimized for efficient passive cooling and durability, despite the little space and thus the limited air flow available around the product.



ABOUT GRASSFISH

Grassfish Marketing Technologies GmbH is an Austrian based digital signage company founded in 2005. Grassfish offers a comprehensive digital signage experience platform and related services ranging from consulting to implementation, with the goal to deliver content to different types of screens and digital environments. Operating primarily in the DACH region, which it has been leading for several years, Grassfish is active in various industries such as retail, automotive, telecommunications, banking and entertainment.

In the last two to three years, Grassfish changed a lot from being a pure software provider to an ISV+ company (Independent Software Vendor + Consulting Services).

This long-term project highlights this development: in addition to its platform solution, Grassfish also brings its know-how through consulting services. For the customers, this means profound technical integration, which answers their needs even better.

<https://www.grassfish.com>

ABOUT TRANQUIL STUDIO

Tranquil Studio is the bespoke design and manufacturing solution family within 2CRSi Edge, engaged when standard platforms cannot meet requirements and engineering change is confirmed as necessary. It operates within a governed, phased structure with defined boundaries at every stage. Studio is intentionally not speculative R&D and not an unbounded custom service. It is a structured engineering engagement designed to reduce uncertainty and deliver outcomes predictably, from initial requirements through to a deployed and supported system. Tranquil means "calm, peaceful, quiet, and free from disturbance or stress."

The vPro feature is also part of the equation: this premium feature added by Intel® to their solution is not a given for lower quality products. It brings an additional benefit to the customer, as it allows to do hardware monitoring independently from the software and pilots remote management of the computer systems. Compared to Grassfish's previous experience with other products, this additional feature represents an evolution and an additional benefit for the customer, as it prevents technical issues linked to the devices themselves.

Without compromising on performance, all these aspects ensure a low maintenance level, and prevent any elevator immobilization caused by a computer failure!

For such use cases, it is key to understand the value of the initial investment, because a reliable device can prove a quick return on investment: in addition to efficiently powering Grassfish's software, the reliability of the Slim Rugged ensures the customer peace of mind in the long run, with a positive impact on the TCO of the overall installation.

"Since our customer had very specific requirements for their player hardware, which no manufacturer on the market fulfilled until, we decided to work together with 2CRSi Edge on a solution. 2CRSi Edge accepted the challenge and delivered hardware for the test in record time.

It has been a pleasure working with such a motivated and innovative team"

Helmut Pfeiler – Head of Account Management at Grassfish.

Thanks to a fruitful collaboration between the customer, Grassfish and 2CRSi Edge, the evolution of this project from development to implementation led to the production of a fully customized and performant product fulfilling all the initial requirements, both at hardware and at software level.

Based on this, the customer could successfully launch his new elevator solution in Fall 2020. Global rollout has started at the beginning of 2021.

Capitalizing on both entities' experience and unique know how, the Grassfish – 2CRSi Edge partnership has been optimised at the benefit of the customer.

Are you looking for an IT system that supports your activity for a specific use case?

Contact us, we can support you, whatever the environment and the constraints linked to it.



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