



Why do you need a Custom Embedded System?

As experts in designing and manufacturing cutting-edge **embedded systems** and **custom carrier boards**, we've created solutions for a range of projects, from **computer vision** applications to **machine control**, **communications**, **networking**, and other **I/O functions**.

[Take a look at our custom design skillset](#)



Custom embedded systems offer **real-time processing**, **low power consumption** and **high reliability** together with **specific functionality** and industry standard **certification** for a multitude of applications.

Performance and efficiency

- Designed to meet specific performance requirements.
- Ensuring optimal functionality with minimal energy consumption.

Customization

- Tailored to required functionality, size and form, certifications etc.
- Ensured to retain the same form, fit and function for many years.

Real-time processing

- Process data in real-time and allow instantaneous decision-making.
- Streamline the system's processing pathways for optimum speed.

Reliability and stability

- Built to be robust and highly reliable, ideal for critical applications.
- Specifically optimized for industrial, medical, defense, transport or other environments.



Embedded systems enhance medical applications

Custom embedded systems have revolutionized **medical applications**. From advanced imaging devices to wearable health monitors, these systems empower medical professionals with real-time data analysis, precise diagnostics and efficient patient monitoring. The integration of these systems has contributed to advancements in medical imaging, telemedicine, robotics-assisted surgery and more.

Our **USB3 Vision Processing Unit** has been custom designed for a specific medical application in the field of computer vision assisted surgery.

The unit has four inputs for USB3 Vision cameras and four 3G-SDI outputs arranged as two channels of 3G-SDI video, each with a duplicate output. It meets various medical and quality standards and is designed for long term use where high reliability and ease of use are paramount.



Custom embedded computing for transport applications

In the **transport sector**, custom embedded systems are driving innovation in autonomous vehicles, intelligent traffic management, efficient logistics and more. These systems ensure reliable communication, precise navigation and advanced driver assistance features, contributing to safer and more efficient transportation systems.

We recently partnered with our sister company, **Steatite**, to design the **ST01 Custom Carrier Board** to operate at the heart of an in-cab rail system. The custom carrier board's robust design ensures that the desired functionality operates flawlessly in demanding environmental conditions and can withstand the intense vibrations that occur in rail applications.



Supporting defense operations with embedded systems

Custom embedded systems play a vital role in defense applications, providing the backbone for mission-critical operations. From **UAVs** to advanced **surveillance systems**, products must meet the stringent requirements of defense applications. Enhanced security, real-time data processing, and rugged designs make embedded systems the perfect choice for defense and national security projects.

We designed our **CM04 Multi-channel Surveillance System** for video surveillance in outdoor urban areas. The unit operates with 7 situational awareness cameras that provide a 360 degree field of view, plus a single PTZ camera to focus in and record events automatically under the control of video analytics software running on the unit.



[View examples of our custom embedded systems](#)

Rely on experts for customization

We are the perfect partner for customizing embedded vision systems due to our unparalleled experience and skills. Our team of experts possesses in-depth knowledge of diverse industries, allowing us to understand the unique challenges and requirements of each application. With a proven track record of delivering successful products and custom carrier boards, we bring a combination of technical expertise, innovative thinking and a commitment to delivering tailor-made solutions that exceed expectations.

We also have access to the wider expertise of the **Steatite group**, leveraging engineering skills in niche sectors and merging design, project management, testing and prototyping capabilities across a range of disciplines.

[Take a look at our custom design skillset](#)

Active Silicon, a Solid State plc company, is a leading manufacturer of imaging products, embedded systems and custom solutions. If you would like to stay informed of upcoming events, products and news in general, then please follow us on one of our social media channels below.



Contact us 

Connect with us     

Copyright © 2024 Active Silicon Ltd, All rights reserved.