

## SUCCESS STORY

### Revolutionizing Embedded Machine Vision: an Innovative Modular Ecosystem powered by NVIDIA Jetson

“STEMMER IMAGING’s strong expertise in computer vision, combined with Aetina’s knowledge in technical hardware design, provides a well-rounded offering for a wide range of customers, making sure to meet new customer requirements in a quick and cost-effective manner .

— Johannes Hiltner, Director Product Management at STEMMER IMAGING

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### The Solution: Building an Innovative Modular Ecosystem powered by NVIDIA Jetson

To address these challenges, STEMMER IMAGING Modular Embedded Ecosystem provides customers with a diverse toolkit for developing tailored embedded vision solutions. The modular and flexible nature of this ecosystem allows for additional components and third-party integrations, catering to specific project requirements across various industries. Its core components include:

- **Modular Embedded Carrier Board:** Powered by NVIDIA Jetson hardware, Aetina’s AN810 board integrates seamlessly with a broad spectrum of cameras and offers versatile interfaces such as GigE, USB3, and MIPI. Its compatibility with various hardware components makes it a cornerstone for creating custom embedded vision systems.
- **Common Vision Blox (CVB):** This software library provides a robust, flexible, and high-performing platform for image acquisition and processing, enhanced by GPU-accelerated algorithms.
- **Comprehensive Service Packages:** These services range from feasibility studies to lifecycle management, offering support throughout the entire project lifecycle.



Aetina’s Edge AI platform: AN810-XNX  
\*Customized product for this project



### The Challenge: Overcoming Complexities in Embedded Vision

The creation of the STEMMER IMAGING Modular Embedded Ecosystem was a response to a growing demand for efficient, flexible machine vision solutions utilizing modern embedded technology across diverse industries. Before its implementation, developers faced critical challenges:

1. **Integration Complexity:** The difficulty of merging hardware, cameras, and software tools into a cohesive system.
2. **Limited Flexibility:** A lack of comprehensive solutions restricted adaptability across various applications and industries.
3. **Long Development Cycles:** The development of embedded vision and AI projects was often prolonged and resource intensive.

Recognizing the challenges faced by developers in integrating embedded vision into their systems, STEMMER IMAGING aimed to provide a comprehensive yet flexible offering that could combine powerful hardware, advanced cameras, software tools, and tailored services in a timely manner.

## Results: Transformative Outcomes in Machine Vision Technology

Up to now, the collaboration between STEMMER IMAGING and Aetina, powered by NVIDIA, has already yielded significant results:

- **Widespread Industry Use:** The solution is now employed across various industries, showcasing its versatility.
- **Enhanced Market Visibility:** The transition from offering simple embedded hardware to comprehensive vertical solutions has significantly improved market presence.
- **Improved Market Access:** The shift to providing complete solutions rather than just components has opened new market opportunities.



Stemmer Imaging's machine vision technology powered by NVIDIA Jetson

## Aetina: The Core of Innovation - High Customization and Expertise

"Aetina stood out as the preferred choice due to their extensive product range, flexibility in communication and support, and a hands-on mentality that aligned perfectly with our vision for the STEMMER IMAGING Modular Embedded Ecosystem", affirmed Johannes Hiltner, Director Product Management at STEMMER IMAGING. Aetina's hardware has been one of the key elements of this project, allowing for:

1. **High Customization Flexibility:** the NVIDIA Jetson carrier board offered unparalleled adaptability, crucial for tailoring solutions to diverse industry requirements.
2. **Hardware-Specific OS Adaptations:** Aetina's customization service excelled in fitting the hardware needs of vision applications, ensuring optimal integration and performance.
3. **Expert Technical Consulting,** which was instrumental in addressing complex technical challenges and aligning products with project goals.

The partnership between STEMMER IMAGING and Aetina exemplifies innovation, flexibility, and efficiency, propelling embedded machine vision to new heights in the industry.

## Aetina's Solution Benefits

Aetina keeps bringing innovative solutions for clients to help their AI business with a broad range of computing systems and application-oriented customization services.

How Aetina's solution has helped Stemmer Imaging in this project:

- High Customization and Flexibility
- Hardware-Specific OS Adaptations
- Expert Technical Support

## About Stemmer Imaging

STEMMER IMAGING is the leading international systems house for machine vision technology.

With a background of all-round engineering expertise, STEMMER IMAGING delivers the entire spectrum of machine vision services for both industrial and non-industrial applications – from value-added services to the development of subsystems and its own products, based on an extensive commercial range of products.



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