



VaryWave Technology Co., Ltd

**Machine Vision Embedded
System Module Designer**

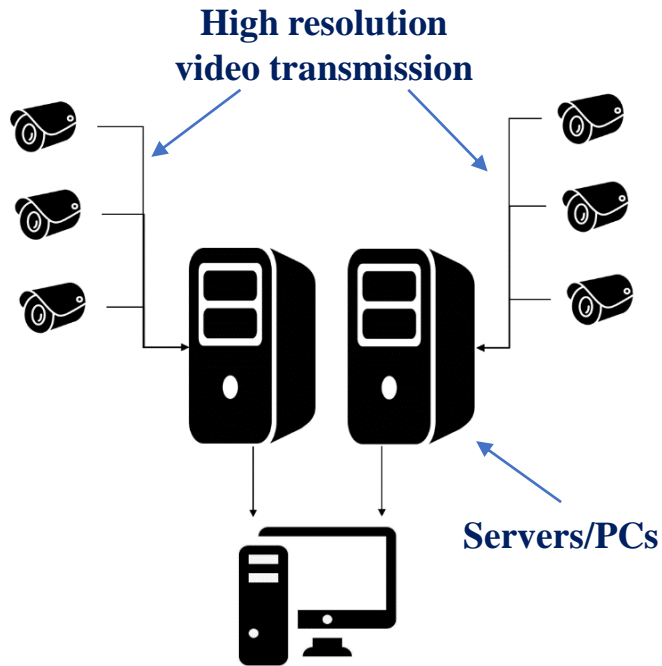


We can deliver a **real-time on-board video processing** module, called **Vision Analyzer**, to perform **different vision tasks** in a vision analysis system .

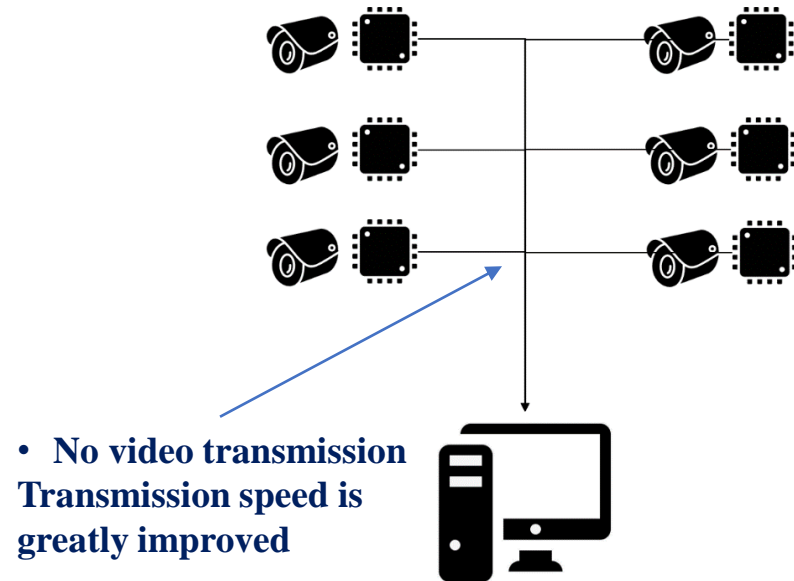
- **High Performance with Small Size**
- **Low Cost:** Do not need extra PC or Server/ Save Bandwidth
- **Flexibility:** Handle different types of I/O



Core Product: Vision Analyzer



**Existing Vision
Analysis System**



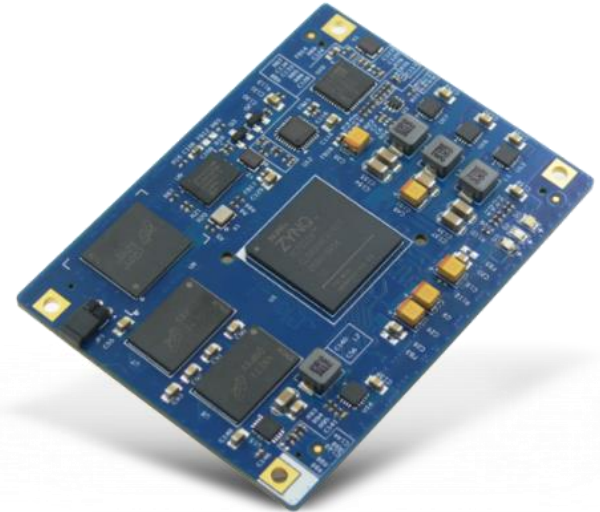
**VaryWave Technology
Vision Analysis System**

Product Introduction

Vision Analyzer

A generalized, real-time embedded video processing module which can meet customers sustainability goals in a variety of areas when adding specific IP cores

- **Small Size:** integrate vision analysis algorithm, software and hardware
- **Low Cost:** without extra PC or server
- **Flexible:** handle different types of input and output



Lift Cable Wear Detection



UAV On-Board Image Processing System



Intelligent Monitoring System

Application 1: Lift Maintenance



Lifts must be maintained and inspected regularly to ensure safety.



Normal Wear



Abrasive Wear



Mechanical Damage



Rotational Damage

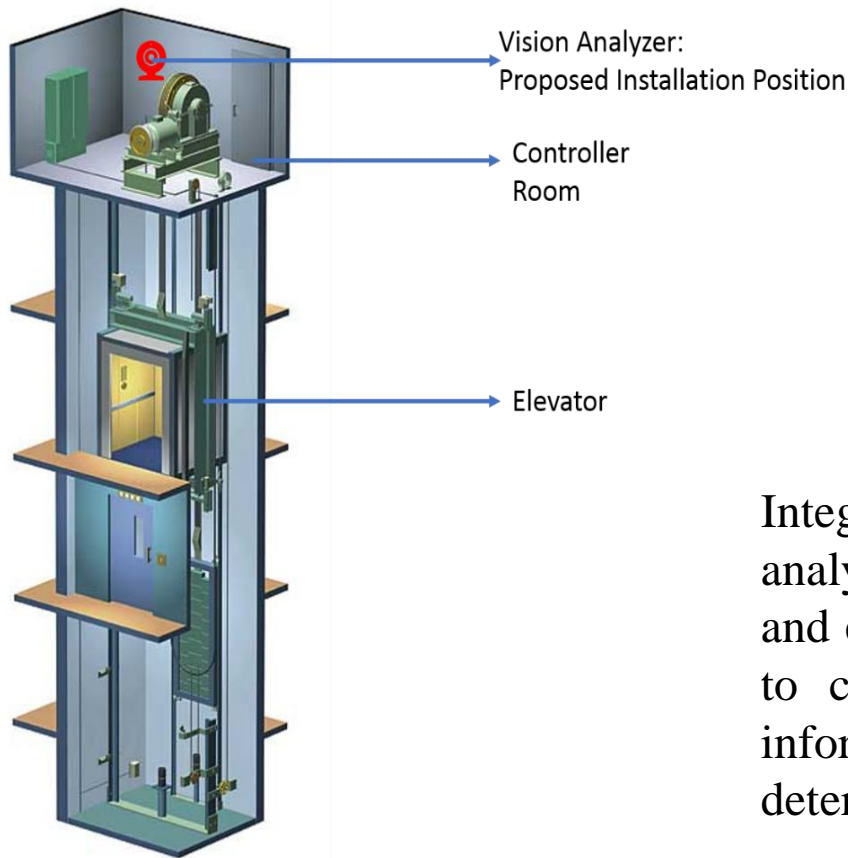


Heat Damage



Bending Fatigue

Application 1: Lift Maintenance

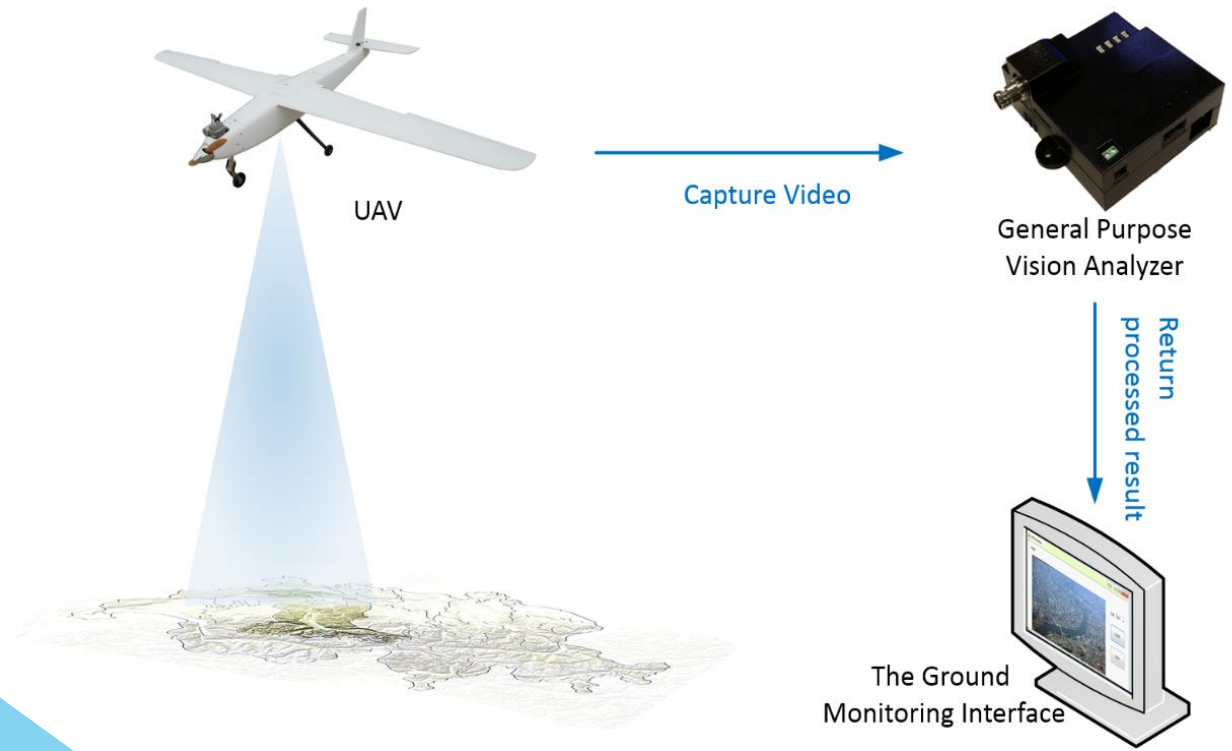


Integrate machine vision analysis with Macro HD lens and existing **Vision Analyzer** to collect image and depth information to monitor and determine cable damage.

Application 1: Lift Maintenance

Comparing with Existing Maintenance Method

	Current Maintenance Method	VaryWave Vision Maintenance System
Time Required	Several Hours	Real Time
Inspection Frequency	Yearly	All the Time
Manual / Auto	Manually	Automatically

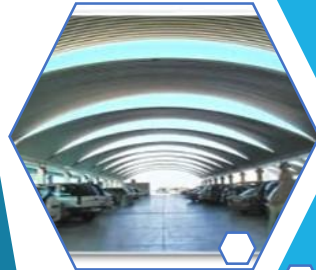


Application 2: UAV On-board Video Processing System



Application 2: UAV On-board Video Processing System

Other Applications



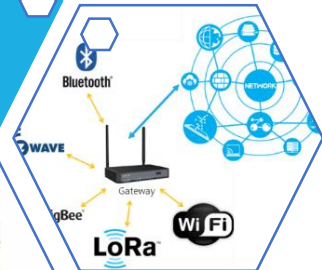
2D Barcode
Reader for
AGV Robot



Customized
Processing
System

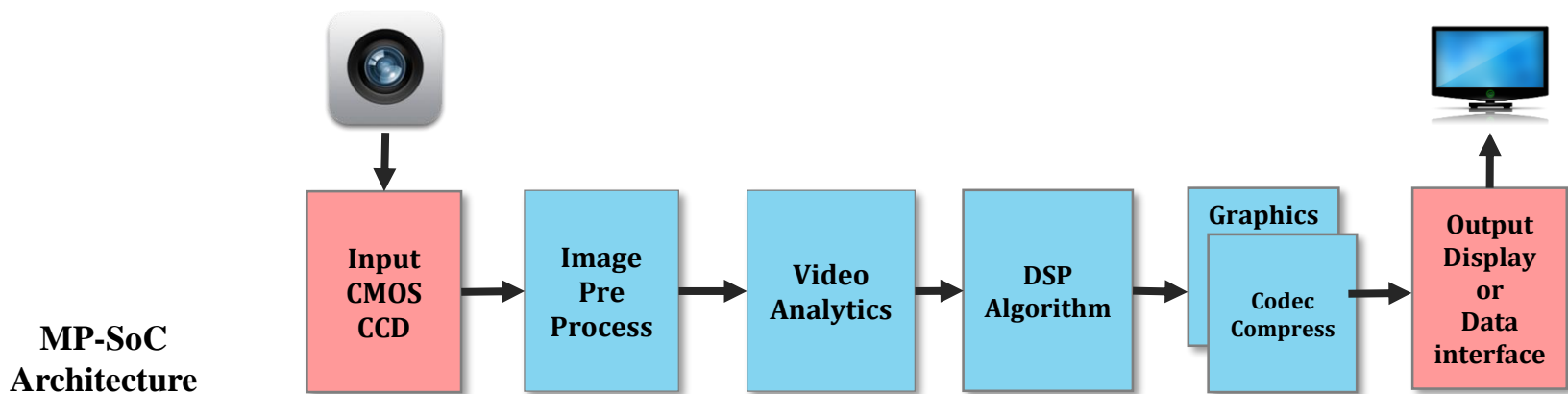
Portable
Near-Infrared
Spectrometer

License Plate
Number
Recognition
System



Innovations

Speed Up and Flexibility



Compute Requirements	I/O	Parallel Pixel Operation	Machine Vision Algorithm	Massive multiply-accumulations	Codec	I/O
VaryWave Architecture	Programmable I/O	240 Gops	> 100 Gops	> 100 Gops	Customized IP core	Programmable I/O
DSP + CPU	Fixed I/O	35-40 Gops	30-50 Gops	~70 Gops	Extra hardware	Fixed I/O
GPU + CPU	Limited Fixed I/O	100 Gops	70-90 Gops	~70 Gops	Extra hardware	Fixed I/O

The processing speed can be increased 4X - 18X



Flexibility of interface selection

Advantages

Algorithm and Software

- Professional Machine Vision Algorithms

Hardware

- Fast Implement Different Architecture Design

Manufacture

- Familiar with the Process of Manufacture

Ultra strong ability for Product Realization





THANK YOU

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Machine Vision Embedded System Designer