

Experience A Better World with Video

Ted Feng, VSD Cloud-IoT, Advantech Thomas Lien, VSD Cloud-IoT, Advantech TEdge Computing Industry WISE-Paas Alliance 1.0 WISE-Paas WISE-Paas Alliance Industry WISE-Paas Indus Market Trend
VEGA Product Offering
Successful Case Sharing
Case Study
Next Growth Engine

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OT

ADVANTECH

5G

VEGA

HDE

VR

HEVC

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82% Video Contents in Global IP Traffic

Trends in Internet Video Streaming



Source: Cisco VNI Global IP Traffic Forecast, 2017-2022



Consumers Want Bigger Screen & Higher Resolution

IHS Research says nearly all 50"+ TVs will be 4K by end of 2019

Y/Y Unit Growth in Q2'19		Japan		North America		Western Europe		Eastern Europe		China		Asia Pacific		Latin America	N	Middle East & Africa		ww
10"-19"	◆	-19%	4	-79%					1	-42%	↓	-46%	↓	-67%	1	-37%	➔	-38%
20"-29"	⇒	10%	↓	-43%	₽	-32%	₽	-30%	ł	-16%	₽	-4%	↓	-43%	4	-8%	➡	-17%
30"-39"	↓	-7%	↓	-5%	⋺	4%	Ð	1%	J	-25%	T	10%	↓	-25%	4	-19%	➡	-9%
40"-44"	↓	-10%	Ŷ	29%	⋺	2%	Ð	6%	J	-19%	₽	4%	-	4%	Ę	7%	₽	2%
45"-49"	⋺	10%	↓	-36%	↓	-44%	⊎	-37%	1	-58%	↓	-23%	↓	-56%	4	-6%	•	-42%
50"-54"	Ŧ	36%	Ŷ	48%	♠	46%	♠	89%	1	35%	Ŷ	83%	Ŷ	86%	4	-3%	♠	51%
55"-59"	⇒	2%	Ŷ	20%	₽	-10%	₽	-6%	3	€ 4%	₽	8%	↓	-8%	1	13%	₽	3%
60"-64"	↓	-14%	↓	-34%	Ŷ	13%	Ŷ	46%	ł	-36%	₽	-18%	Ŷ	49%	4	-45%	➡	-22%
65"-69"	T	44%	Ŷ	52%	Ŷ	13%	Ŷ	26%	1	32%	T	24%	Ŷ	47%	1	42%	1	35%
70"-74"	↓	-52%	Ŷ	-1%	ſ	50%	Ŷ	688%	1	67%	€	8%	↓	-2%	1	46%	1	28%
75"-79"	\mathbf{r}	50%	ſ	68%	↓	-2%	Ŷ	13%	1	238%	T	91%	T	59%	1	58%	1	71%
80"+	♠	305%	1	135%	♠	77%	Ŷ	109%	1	68%	Ŷ	112%	1	11%	1	101%	♠	107%
Total	↓	0%	ſ	14%	↓	-4%	↓	0%	1	-8%	₽	6%	↓	-11%	1	-5%	•	-1%



AV Over IP Market Forecast

The Demand of Low Latency Video Transmission Increased in Many Vertical Market

AV Over IP Vertical Port Forecast - 2015-2023 - K Units - Shipments to Low-Latency Pro AV Applications*





AVoIP Forecast in Healthcare Industry

Video Distribution in Operation Room Drives the Future Growth of AVoIP



Healthcare

- | The healthcare industry is a niche, but rapidly growing, opportunity for AVoIP solutions. This industry is difficult for brands to enter, as sales here are solution-based, requiring requisite healthcare experience in which AVoIP is seen as just one aspect of the entire solution.
- The healthcare market has stringent requirements for video distribution; this is particularly true for video distribution connecting operating theatres (a driver of significant future growth in the segment), which is considered mission critical. As such, there are high demands for quality, resolution, and latency here, with less emphasis placed on price. 10G solutions are being rapidly adopted in the segment, driven by specialist providers.



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Standard Product Portfolios in VSD

(VEGA Family Accelerates IP based Media Workflow)





Core Competence Possessed in VSD

(Innovation & Differentiation in addition to Software/Hardware)

Most Advanced Codec support

H.264, H.265, AV1, VP9 From the most universally adopted to the most advanced

Future proof

From FHD, 4K to 8K with scalability& product offerings support resolution as high as 8K



Value- added Options

Chipset(ASIC): Socionext, Ambarella

FPGA: Xilinx, GPU: NVIDIA

* Advantech have dedicated FPGA team to support the development based on customer's request

Customization

Flexible business model with customized experience for Tier1 customers



VSD Core Technology& Applications





Video Infrastructure Served by VEGA Portfolio

Low-Latency Live Video Creation, Production & Distribution



Facilitate Video Streaming at Field

VEGA Encoders: Compact, Low Power, Compression Efficiency



ADVANTECH

VEGA Solution for Medical Video Application

Video Streaming throughout the Hospital and Minimally Invasive Diagnostics





Versatile Video Features in One Box

VEGA Encoder Modules Strengths



Multi Video I/O Interfaces 12G-SDI, 3G-SDI, HDMI, Display Port,...



Multi Streaming Protocols RTMP, RTP, RTSP, HLS, TS, ST-2110, ST-2022, Zixi, Open-SRT,...



Multi Video Formats 8K, 4K UHD, FHD, SD, H.264, H.265, JPEG, VP8, VP9,...



Multi Software Features WEB-GUI, RESTFul API, LTE/WIFI Transport, 3D, Multi-Stream...



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VEGA-2000 Video Encoder Use Case

1080p Wireless Video Streaming over LTE for News Gathering

100+ Cameras & Video Modules

Taiwan Presidential Election





VEGA-2001 Empowers Live AR/VR over SoftBank 5G 5Gを活用したVR / AR観戦や自由視点視聴など未来のスポーツ観戦体験を提供



Taiwan Pro-Baseball League 4K Live TV

VEGA 7000/3311/MediaFlow Deploy to WINTV 2018





VEGA-7000 Video Server



VEGA-3311 4K Video Encoder



MediaFlow Web-based Video Streaming



Incendium: VEGA2000 Capture& encode usage case for emergency news gathering





LTE connection built in moderns support of your region. Optional support for: NET 1/ice.net in the Nordics or FirstNet in USA

Patch panel 1 x WAN and 1 x LAN interfaces (i.e. satellite, ADSL or any available connection) to increase network reception

Multiple connections BNC (3G-SDI) & HDMI 1.4 Interface

Battery powered low power consumption delivers from 4-16 hours of streaming with hot swap function

Exterior Pockets four (4) exterior pockets ensures easy access to extra batteries and chargers

One-button startup automatic input and format detection makes the usage simple and quick.

> Optimal coverage 5 internal 3G/4G/LTE/ modems with easy access





Intuitive Surgical Da Vinci Vision Cart Solution

Training Recorder & Operation Room Video Processing & Recorder





- Compact All-in-One system
- 4K & 3D video handling
- API/SDK to easy Integrate with DICOM System
- Upgradable to support ST2110



VEGA-6301M 4K & 3D Medical Video Encoder



VEGA SDK Linux / Windows



VEGA-6301 Frame Wrapper – Multiple Video Record

Stereo Video to SDI Port 1/2 and Single Video from HDMI





Carl ZEISS 3D Medical Video Capture and Record

Stereo Video Source Record





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VEGA-3310 Series Accelerates Cloud Encoding

Video Server Application Ready-To-Go



Deliver 512 Video Channels in Real Time

VEGA-3318 Cloud Transcoding Solution



AD\ANTECH



VEGA-3318 Cloud Transcoding Solution

Single Inbound / Multi-Formats Outbound Streams



Input	Decoding (<160Mbit total)	Scaling	Encoding	Outputs (N*M)
4К	1 ch (AVC or HEVC only)	Up to 4 outputs	1-ch 4K or >1080p 4-ch 1080p60 or equiv	Max 20 per chip
M * 1080p60	M = up to 4 ch	1:N per input	4 x [1080p65 equiv]	Max 20 per chip
M * 720p	M = up to 8 ch	1:N per input	4 x [1080p65 equiv]	Max 20 per chip



Medical 4K Recorder Solution Ready Platform Software Application Ready-To-Go







SDD 4K OPELIO

Medical Video Recorder & Management System



Advanced Driver Assistance Systems (ADAS) VEGA-2000 Series offer G2G Ultra Low Latency in 60ms Over 5G Network



Unmanned Car in Fukuoka(福岡) VEGA-2002 encode the live video in 4K resolution and transmit to Tokyo where Thomas located and drove the car from.



4K Video Encode & Streamer



Railway Inspection by VEGA Video & AI Products The Proven Solution Installed on JR Train -- VEGA-7000 + VEGA-3311 + VEGA SDK

 Total 8x 4K high speed camera capturing the power cable line and railway platform



 2x VEGA-7000 & 8x VEGA-3311 installed in one train

- Record the outside environment and streaming to remote cloud for analytic
- Al platform now leverage the nVidia GPU Al platform



VEGA-7000 Video Server



VEGA-3311 4K Video Encoder



VEGA SDK Video Capture / Processing



VEGA-6304 Brings 8K over 5G Network

French Open Tennis Game 2019 via 5G network









- Compact 8Kp60 H.265 Encoder Appliance.
- Live video and audio ingress via 4 x SDI-12G inputs with 22.2ch audio capture.



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VEGA-4000 Reconfigurable FPGA Video Encoding (Single Hardware w/ Multiple Futureproof Codec Options)





25,000 Images Classified per Second on VEGA-4001

Highest Image Classification Rate on a Single PCIe Card







■VEGA 4000 ■VEGA 4001



Intel Xeon Platinum InVidia P4

■VEGA 4000 ■VEGA 4001

FPGA & ASIC Alternative to CPU/GPU

Increased Adoption for Machine Learning Inferencing Applications

Hitting the accelerator: the next generation of machine-learning chips

Deloitte Global predicts that



ADVANTECH

VEGA-4001 outperforms nVIDIA V100 at SC18**

25000 ips vs. 14000 ips



** Demonstrated on Mipsology booth at SuperComputing 2018 show



VEGA AVoIP Product to Different Vertical Market





Co-Creating the Future of the IoT World

