Successful Implementation of Embedded Core Design-in Service

**Moderator:**
Mark Yang, Senior Director of EIoT, Advantech

**Panelists:**
Avi Nataf, Technologies Managing Director, Nisko
Pier Lugi Zenevre, Co-founder, Linari Medical
Pawel Surgiel, CEO, Bivrost Sp. z o.o.
## Embedded Core Design-In Services

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**Integration Acceleration**

- **EPC CTOS**
  - (IMB, Chassis, Peripherals, OS)

- **Rugged Design Services**
  - (Coating, Wide Temp., Anti-Vibration)

- **DTOS Services**
  - (Custom Board, I/O, 610G Class 3)

- **Peripheral Integration**
  - (Wireless, Storage, Display)

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**Images**

- COM
- SBC
- MI/O
- UTX
- Mini-ITX
- Arm-Based Module
- Arm-Based SBC
- UIO

*ADVANTECH*
Pawel Surgiel
Founder @ BIVROST | R&D of emerging media technologies
Warsaw, Masovian District, Poland · 500+ connections

Avi Nataf
Managing Director at Nisko Technologies
Israel · 434 connections · Contact info

Pier Lugi Zenevre
Co-founder, Linari Medical
Bivrost is a product design company that combines cutting-edge hardware and software to empower digital creators industry.

With the background in deep tech engineering, Bivrost develops all-in-one AI-powered solutions that enables the live production and streaming of high quality content with zero level of professional skill requirement.
GOAL:

to make an impact on the live streaming industry
Hours Streamed By Platform In Q1'19

- Twitch: 103.3M
- YouTube Live: 12.5M
- Mixer: 8.2M
Fun facts:

- Watching eSports is an industry soon to be worth $1 billion.
- There were 4,463,290 Twitch streamers in March
- 67% of audiences who watched a live stream purchased a ticket to a similar event the next time it occurred.
- 85% of u25 people are consuming live content on a mobile device
- 80% of consumers prefer to watch live videos from a brand than read a blog
Advantech / BIVROST

Cooperation model

• High end carrier board design and manufacturing under a tight schedule

• European project management team and engineering team to support customer locally.

• Advantech Taiwan works in the background to support local engineering capability

• With Carrier board Bivrost also intends to use custom Advantech COMe module based on 6th gen core i7, suggested SQRAM modules, Microsoft licensing and validating also high capacity storage SSD’s from Advantech.
Tech specs:

5x M.2 for wide peripheral flexibility with Storage, wireless connectivity and AI

6x USB 3.1 for extreme fast data transmission from the cameras

2x HDMI for visualization

SOM-5899 COMe module equipped with 3x SODIMM and Intel Core i7 Coffee Lake
the promise
today
where do you want to (live) stream today?
tomorrow
Embedded Core Design-In Services

Paweł Surgiel
Nisko Technologies
Opportunities on the Defense and Medical Markets in Israel

Avi Nataf, Nisko Technologies Managing Director
Nisko-Ardan Group

- Since 1970
- **Israeli distribution leader** in the electronics, communication, defense, industrial, medical and hi-tech sectors.
- ~1,000 employees, out of which 23% are experienced engineers.
- Turnover @ CY2018: ~500M$.
- Customer base: Over 500 companies.
- ISO 9001-2008 certificated.
Nisco Technologies in a Glance
Offering unique expertise and extensive experience in embedded technologies including ATCA, CPCI, VPX, small SBCs, ComE & 3.5'', Servers & Industrial-Computers by proposing Full Turn Key Integrated Systems

Medical System
Custom Full System ComE
Embedded PC for C4I System
The Main Players in Israeli Defense Market

**Elbit Systems**
- Annual Revenue: $3.7B
- Employees: 12,470
- Founded: 1967
- Elbit develops, manufactures and integrates electronic, communication and electro-optic systems for defense and aviation sectors.

**Rafael**
- Annual Revenue: $2.9B
- Employees: 7,500
- Founded: 1948
- Rafael designs and manufactures defense systems for air, land, sea and space applications.

**Israel Aerospace Industries (IAI)**
- Annual Revenue: $3.5B
- Employees: 15,800
- Founded: 1953
- Israel Aerospace Industries is engaged in the development and production of systems for the defense and commercial markets.
The Israeli Defense Market’s Needs

- **Rugged Solution:** memory soldered down, IPC Class 3,
- **Custom BIOS:** Quick boot time,
- **Conformal Coating**
- **Extend Temperature Range:** -40~ 85°C
- **Security Features:** AES encryption, HW & SW secure erase
- **Locked BOM & Change Notification:** at least 6 months ahead.
- **Longevity:** 7+ years

All these needs can be achieved from Advantech by the SSD and ComE Product lines.
SkEye Project

Background
Developing a system which capable of continuously monitoring vast areas, intercept events and maintain multiple regions of interest (ROI) under constant surveillance, with high spatial resolution. Storage Unit – Include 34 SSDs

SQF-S25M8

Ruggedness & Security
- -40~ 85°C wide temp. support
- AES-256 Encryption

Quick Services
- Close relationship & good support
- Quick availability of samples

SW Support
- SW secure erase
- Real-time VxWorks OS support

SQ Manager Inside
Endoscopy System

Background
A start-up company with uniquely patented in the world of miniaturizing visual fiber-optics, providing the only ultra-thin, high resolution, extremely flexible, single-use endoscopic platform based

AIMB-586 with Chassis

Customized Services
• Custom USB connector with secured limited access
• 3rd party SW solution for data security

Quick Support
• Close relationship & good support
• Professional engineering consultation on earlier stage

Longevity Support
• 7+ years longevity support
• Medical grade PSU

Bundle with DeviceOn
Linari

Pier Lugi Zenevre, Co-founder, Linari Medical
PIONEERS IN NEUROVISUAL REHABILITATION
STROKE
Main Hemianopsia cause

HEMIANOPSIA
Visual deficit

NEW CASES DIAGNOSED EACH YEAR

ITALY 25,000
EUROPE 228,000
GLOBAL 2,475,000

<table>
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<tr>
<th>Causes</th>
<th>Percent</th>
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<tr>
<td>Stroke</td>
<td>60%</td>
</tr>
<tr>
<td>15% More</td>
<td></td>
</tr>
<tr>
<td>11% Cancers</td>
<td></td>
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<tr>
<td>14% Brain injury</td>
<td></td>
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<tr>
<td>Others</td>
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PATENTED MEDICAL DEVICE FOR
TELE-NEUROVISUAL REHABILITATION
AVDESK COMPONENTS

- **High resolution camera**: Suitable for the low light view, integrated in the central panel of the curve screen and connected to the data collection unit. It uses **Artificial Intelligence** to control the patient position during the therapy.

- **Wireless button**: For patient interaction with the device.

- **Curved horizontal-design screen**: For the supply of visual and acoustic stimulus.

- **Data collecting and elaboration unit**: With proprietary software and cloud service. Equipped with touch screen display for interaction with the system.
First Results after just 20 h of personalized therapy
Our Needs

- Centered cloud managing for partners and costumers support
- High Speed Connectivity
- High Calculation Power for Ai support
- IoT and Cybersecurity
- Resistance for hundreds of flights
- Small in size and weight
- Silent operativity with SSD and fanless
MIO-5272U

MIO-5272U-U4A1E
Embedded computer board
High calculation power to support the AI, to monitor the patient in real time and to guarantee the therapeutic adherence

- Intel Core i5
- 4G
- High Performance Processor
- High Speed Connectivity
- Resistance
- Silence
ADV-IDK-1107WR

IDK-1107WR-50WSA1E
Touch 7” LCD module

High quality component to be used by visually-impaired patients at home, without the medical support and accidental impact resistant

High Contrast
Resistence
WISE-PaaS/ DeviceOn

DeviceOn on Microsoft Azure
Cloud Managing Platform

A unique access point to all required functionalities for the remote control of the patient. Software updates of devices via platform.

- Device management
- Real Time Monitoring
- Software Update
USE CASE: DeviceOn and AvDesk
scores a GOAL! with ADVANTECH
Leading Embedded Core Innovation & Design-in Services

- Time to Market
- Leading Innovation
- Design-in Service

- Industrial Motherboards
- Computer On Module
- Embedded Single Boards Computers
- Arm-Based Computing Platforms
- Industrial Flash & Memory
- Embedded PCs
- Embedded Software
- Embedded Wireless Module
Co-Creating the Future of the IoT World