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# **Board and Senior Management**





#### **DAVID LEVI CEO**

30 years in the telecom industry, with vast technical and business experience.

Prior to Ethernity, David was the founder of Broadlight, a company that developed BPON and GPON which was sold to Broadcom for \$230M.

Prior to that, David worked at ECI Telecom as Product Marketing Director, at RAD and Tadiran as Product Manager.



#### **SHAVIT BARUCH**

VP R&D

30 years in telecom, with vast technical experience in networking technologies and protocols, both at components and system level

Prior to Ethernity, Shavit served as Chief Architect at Native Networks (Metro Ethernet solutions), founded Crescendo Networks, and served as R&D Director for broadband transmission cards at ECI Telecom.



## **AYALA DEUTSCH**

**VP FINANCE\*\*** 

More than 15 years of financial experience in international high-tech companies. Served previously as Corporate Controller at Glide, and prior to that, as auditor at KPMG.

Ayala is a Certified Public Accountant in Israel and has completed her studies toward her MBA, majoring in Financial Management at the Hebrew University in Jerusalem.



YOSI ALBAGLI NON-EXECUTIVE CHAIRMAN\*

Yosi comes from an engineering background, focussing on strategy, business, technology, and management. He is the Co-Founder and Chairman of Over-Sat.
Yosi served as President of Satellite Communications at Orbit Technologies (TLV: ORBI). He was the Co-Founder and CEO of Tdsoft, and after Tdsoft's acquisition of VocalTec (NASDAQ: VOCL) Yosi served as President CFO and Director of VocalTec



RICHARD BENNETT NON-EXECUTIVE DIRECTOR\*

Richard has 30 years business and listed company experience. He has held executive, chairman and non-executive roles in successful growth-focused technology and clean energy companies including, previously AlM-quoted MTI Wireless Edge and currently AlM-quoted GETECH plc, and China New Energy.

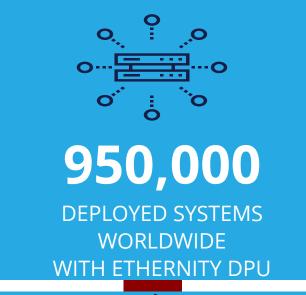
<sup>\*</sup> Independent

<sup>\*\*</sup> Serving as an observer on the board until formal nomination as CFO

## Who we are

- We are an innovative semiconductor networking technology provider for wired, fibre and wireless access networks
- We offer a full range of solutions, from customized semiconductor solution ported on FPGA or ASICs to the design of a complete networking system
- We service three core markets:
  - General Ethernet Access market over wired and wireless infrastructure
  - fibre Access
  - 5G Open Radio Access Market (RAN)
- Founded in 2004, we operate from our headquarters in Israel and have been listed on AIM since 2017 (ENET.L)







# **Ethernity's role in the Network**













Ethernity's solutions process millions of customer flows to deliver a better user experience, congestion control, security and forwarding to/from the right content source





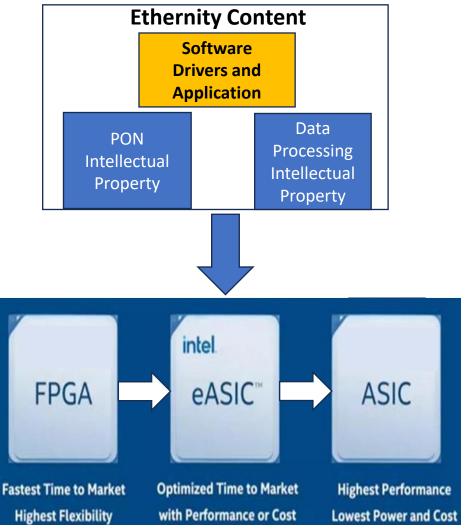
# **Ethernity Enablement and Markets**

The **5G** Infrastructure build-out is underway

Ethernity offers networking and fibre access semiconductor technology and software over FPGA or eASIC chips. This addresses a need in this growing market.

- fibre Access: Serves fibre To The Premises over Passive Optical Networking (PON) technology utilizing proprietary PON semiconductor technology
- 2. Ethernet Access: Utilized in house data processing technology to allow adaptation for different use cases and integrated innovative functions
- **3. Wireless backhaul Offering:** Patented Link Bonding to assist deployment of fibre throughput over wireless
- **4. Open Radio Access Network (RAN):** Accelerate performance for cloud-based networking functions





## **Carrier Ethernet Access Switch Market**



#### The Market

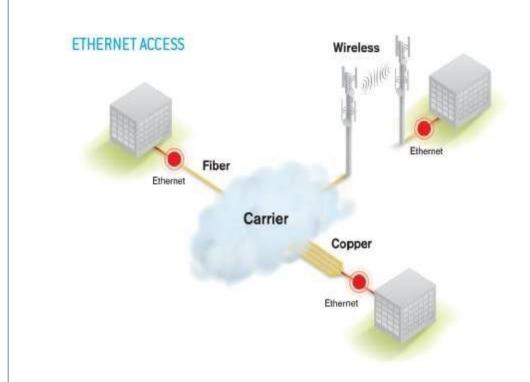
Aggregate User Traffic delivering traffic monitoring prioritization, traffic management and security

## Massed deployed technology

Ethernity's IP delivered on customer platforms with more than 950k systems deployed

## Key advantages of our solutions

- Carrier Ethernet appliance embedding unique and valuable networking AI functions
- Advance network monitoring
- Wireless access with link bonding
- Mobile backhaul with embedded PON



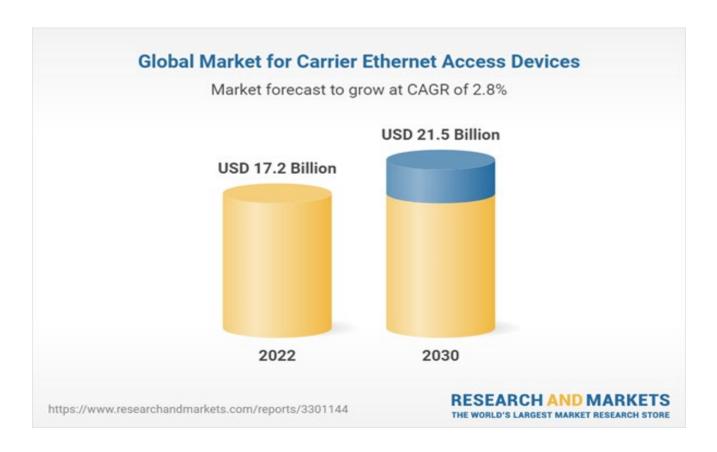
Aggregates ethernet user traffic over copper, wireless or fibre

## **Carrier Ethernet Access Switch Market**



**\$21.5B** EST. MKT (2030)

CARRIER ETHERNET ACCESS Devices



Source: Research and Markets, December 2023 (https://www.researchandmarkets.com/reports/3301144/carrier-ethernet-access-devices-global)

# Fibre Access Technology on PONs



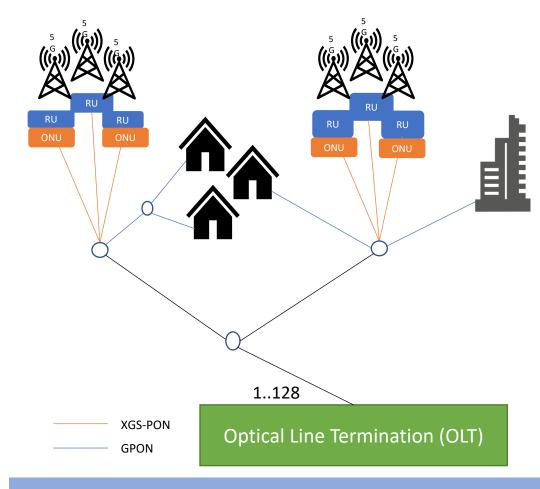
#### What is a PON?

#### The PON Market

- Cost effective fibre access technology that utilize passive splitters to connect multiple users
- Reducing dramatically power consumption
- The dominated fibre access technology

## Ethernity's Offering

- Low power remote OLT
- PON functionality on SFP (PON Stick)
- Optical interworking unit
  - Building establishment owners targeting the MTU /MDU
  - Extending user serviceability by 30
  - Smart City and IoT connection over fibre with lower cost network connection



Single Strand of fibre connect 128 End Points using passive optical splitter

# Fibre Access Technology on PONs - market size

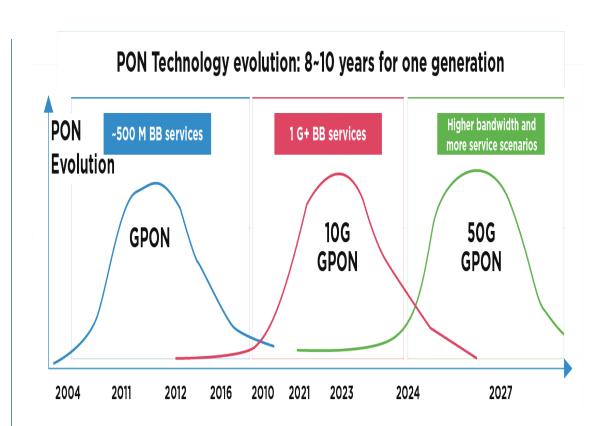


**\$50B** EST. MKT (2032)

PASSIVE OPTICAL NETWORK (PON) Source: Global Market Insights



Ethernity Targets:
IoT, Smart City, MDUs, and backhaul market

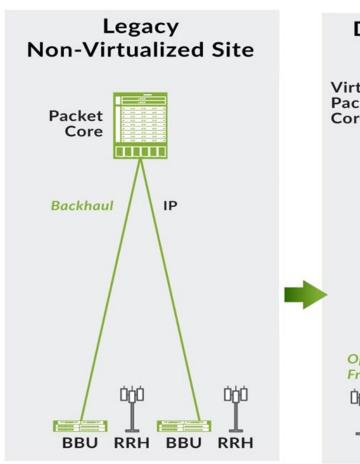


Currently supported by Ethernity tech: GPON, 10G GPON and 50G HSPON in plans

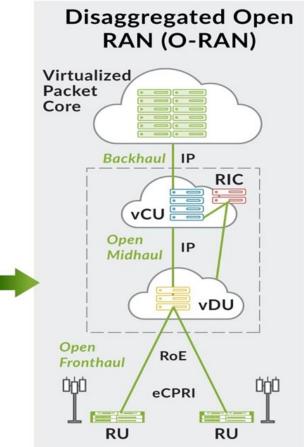
# **5G - the Open RAN opportunity**



- Radio Access Networks (RANs) connect mobile devices to networks via radio signals (1G to 5G)
- Existing RANs are currently dominated by large incumbent vendors (Ericsson, Nokia, Huawei) where one vendor provides entire network infrastructure
- Open RAN disaggregates the network into component parts to enable smaller vendors to enter market with innovative offerings
- Aim is to improve competition, increase flexibility and reduce cost
- The 5G mobile network is being built on an Open RAN structure



RRH = Remote Radio Head BBU = Baseband Unit



RIC = RAN Intelligent Controller

CU = Centralized Unit

DU = Distributed Unit

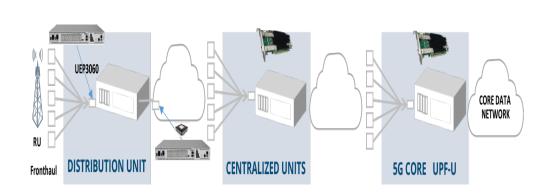
RU = Remote Unit

## **Open RAN – market size**

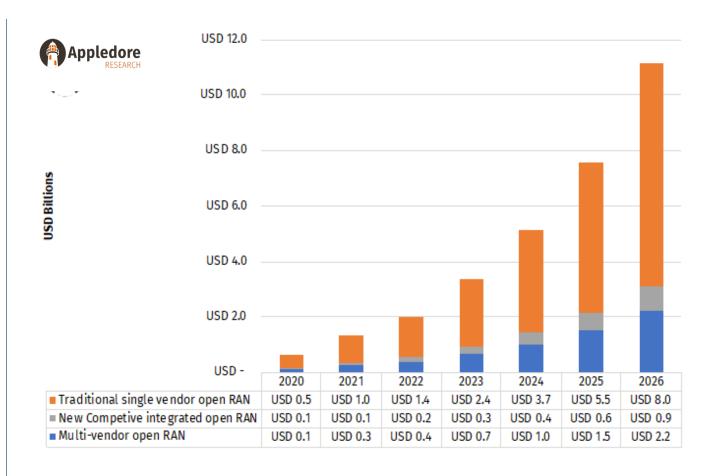
ETHERNITY NETWORKS

**\$12B** EST. MKT (2030)

**OPEN RAN MARKET** 



Ethernity Smart Data processing functions can be applied for incumbent RAN providers and new vendors using our data processing technology



Source: Appledore Research

# **Intellectual Property & Case Studies**



## DATA/NETWORK PROCESSING

#### **ENET SoC**

✓ All-in-one Data processing Carrier Ethernet/Router technology to support 50G to 300Gbps on FPGA

#### **KEY ADVANTAGES**

- ✓ Integration of value-added functions, encryption, monitoring, queue analysis, DMA and bonding
- ✓ Fits into existing hardware, accelerating time-tomarket
- √ 100% ownership of IP, can migrate to ASIC or FPGA vendor

#### **REVENUE & GROWTH OUTLOOK**

- ✓ Recurring revenue from OEM customer platforms with 950K deployed
- ✓ Anticipated significant growth in fixed wireless OEM business including selection for 2<sup>nd</sup> gen product as visible in H1 results
- ✓ Enablement of FPGA NIC and UEP solutions
- ✓ Active discussion on porting into eASIC

## PON DEVICES

#### **OLT/ONU MAC**

✓ Uniquely architectured devices with GPON and XGS-PON ports to enable 5G Fronthaul and fibre Access deployments

#### **KEY ADVANTAGES**

- ✓ Low latency QoS HW based DBA algorithm decreases software resources on CPU
- ✓ Equipped with software SDK

#### **REVENUE & GROWTH OUTLOOK**

- ✓ Engaged with Intel on delivering the PON technology to customer on eASIC platform.
- ✓ Engaged in a project for delivering a complete system, based on a design services payment (NRE) and licensing.
- ✓ Ongoing discussions with customers regarding 50G high speed PON

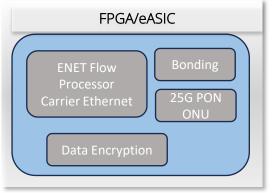
# **Universal Edge Platform (UEP)**

- FPGA SoC (System-on-Chip) based appliance platforms implementing Carrier Ethernet Switch as a base with the following additional functions
  - Router
  - Wireless link bonding
  - Traffic monitoring
  - Encryption/ security
  - XGS-PON / Combo PON OLT
  - Future: 25G PON ONU
- Protocol Stack and management
  - Ethernity owns stack
  - Integration with 3rd party routing Stack
- Business model
  - Engage with customers on delivering complete licensed based system
  - Recurrent revenue from FPGA/ASIC and software application



## Universal Edge Platform (UEP)

Management and Network Stack





All programmable platforms serve various market opportunities

# **Remote OLT and Optical Interworking Unit**

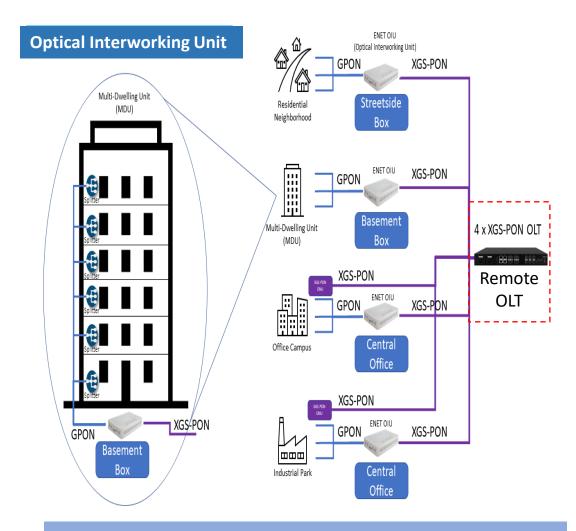


#### Remote OLT with QUAD CPON

Ethernity is in progress with several customers to design
 Quad CPON OLT combining Ethernity FPGA Switch and Quad
 PON

#### Optical Interworking Unit

- XGS to GPON and 25GS to GPON to serve higher number of GPON users
- Target Market
  - Building establishment MTU/MDU owners interested in connecting to existing XGS services and spread GPON for tenants
  - GPON for IOT, Electric grid, or smart cities



Serving 16,000 users over 4 x 10G PON ports served by Remote OLT

# 2023 trading update



- Expected revenue between \$3.6m and \$3.8m (2022: \$2.97m) based on existing contracts growth of ~26% YoY
- Expected underlying gross profit of between \$2.4m and \$2.6m (2022: \$1.59m) growth of ~56% YoY
- Underlying Gross margin of 67%-68% (2022: 54%)
- Estimated EBITDA loss of \$3.8m (2022: EBITDA loss of \$6.4m) reduction of 41% YoY
- Total expected cash collection for 2023: \$4.5m \$4.7m with \$1.5m \$1.7m in Q4.
- Monthly operating expenses at December 2023: \$300k (June 2023: \$660k).
- Revenue segments: Licensing, Maintenance, NRE and Sales of FPGA SoC
- Aim to generate positive cash flow in 2024

All figures are company estimates, based on current contracts in place

## **FINANCIALS: H1 2023**



### **Income Statement Results**

**REVENUES** 

**GROSS PROFIT** 

Add back non recurring IFRS impairment

**Underlying Gross Margin %** 

Gross Margin %

Research and development expenses

General and administrative expenses

Marketing expenses

**OPERATING LOSS** 

Financing costs

Financing income

NET COMPREHENSIVE LOSS FOR THE PERIOD

US Dollar			Increase		
For the 6 months ended		31-Dec	(Decrease)	%	
30-Jun		31-Dec	June	76	
2023	2022	2022			
1,398,871	704,853	2,937,424	694,018	98%	
802,494	428,761	1,598,328	373,733	87%	
193,537	-	-			
71%	61%	54%	10 pps		
57%	61%	54%	-3 pps		
3,241,579	3,276,067	6,618,795	- 34,488	-1%	
926,293	1,001,705	2,523,916	- 75,412	-8%	
408,877	629,020	1,152,493	- 220,143	-35%	
- 3,774,255	- 4,478,031	- 8,696,876	703,776	-16%	
- 163,008	- 274,565	- 573,388	111,557	-41%	
322,814	1,249,863	1,267,652	- 927,049	-74%	
- 3,614,449	- 3,502,733	- 8,002,612	- 111,716	3%	

# **FINANCIALS: Summary**



	US Dollar		Increase		
Income Statement Results	31-Dec	31-Dec	(Decrease)	%	
	2022	2021			
REVENUES	2,937,424	2,635,420	302,004	11%	
GROSS PROFIT	1,598,328	1,944,903	- 346,575	-18%	
Gross Margin %	54%	74%	-3 pps		
Research and development expenses	6,618,795	5,550,912	1,067,883	19%	
General and administrative expenses	2,523,916	1,721,873	802,043	47%	
Marketing expenses	1,167,534	1,044,905	122,629	12%	
Other Income	- 15,041	- 45,312	30,271	-67%	
OPERATING LOSS	- 8,696,876	- 6,327,475	- 2,369,401	37%	
Financing costs	- 573,388	- 3,074,452	2,501,064	-81%	
Financing income	1,267,652	228,404	1,039,248	455%	
Tax expense (benefit)	-	- 186,772			
NET COMPREHENSIVE LOSS FOR THE PERIOD	- 8,002,612	- 9,360,295	1,357,683	-15%	

## WHY ETHERNITY?



# FROM THE **TOWER** TO THE **5G CORE**

THE ONLY VENDOR That Offers Routing Function On FPGA NIC

**LINK BONDING** Allows Better Utilization Of The Network

**HIGHER PORT COUNT** Resulting In Additional Saving For Customers

**FASTER INNOVATION** To Adopt The Latest Technologies

**FLEXIBILITY** In Adoption Of New Network Solutions

**DIFFERENTIATED PRODUCTS** For The Telecom Market

**CURRENT MARKET ENABLEMENT** Through Disaggregated HW Platforms And Open RAN

## SOFTWARE

# ADD-ON FEATURES

**PACKET PROCESSING CODE** 

Clock Sync Virtual Networks IP Sec/MAC Sec L1 Bonding

# **ENET FPGA**PACKET PROCESSING CODE

## **HARDWARE PRODUCTS**

ACE-NIC • FPGA • SMART NIC • FPGA SoC UEP (Universal Edge Platform) FPGA-Based 5G□Routing Appliances

# **THANK YOU!**

#### Contact information

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# Appendix: Ethernity's Optical interworking Unit Power the MDU and Internet of Things (IoT)



- Europe has reached 200 million homes that are now able to access FTTH services. This number is forecasted to increase by over 50 percent in the next five years, to more than 300 million homes, where 50% out of this number is served through MDU.
- Global IoT Market to Hit \$1.8 Trillion in 2028 at 24.5%
   CAGR (fact and Factors Jan 2022) to serve connectivity to Smart Energy, water utility, Cameras ,Smart Health and Education

