

October 19, 2022

FOCUS UNIVERSAL (NasdaqGM: FCUV)

BUSINESS DESCRIPTION

Founded in 2012, Los Angeles-based Focus Universal has developed proprietary technologies designed to simplify the design and production process for the Internet of Things (IoT) industry, the network created by billions of internet-compatible devices. Gartner recently estimated that more than 20 billion IoT devices were in use globally at the end of 2020. According to Fortune Business Insights, the global internet of things (IoT) market is projected to grow from \$478.4 billion in 2022 to \$2.46 trillion by 2029, representing a 26.4% compounded annual growth rate (CAGR) over the period.

While many devices share up to 90% in common foundational hardware and software, the growth of IoT has been limited by interoperability challenges among devices with different technical specifications and functional capabilities. IoT functionality may also be slowed by interference from radio signals and radiation. To address these pain points, Focus Universal has developed multiple technologies designed to address interoperability challenges and to facilitate data sharing among devices and their software.

The company's products include the Universal Smart Instrumentation Platform, which provides a common hardware foundation for the electronic design of IoT applications, and the Ubiquitor, a handheld IoT sensor device. The company has also obtained patents for new technologies and services such as Ultra Narrowband Power Line Communications, Ultra Narrowband Wireless Communications, and Device-on-a-Chip (DoC) applications.

The company's Universal Smart Instrumentation Platform (USIP) uses a computer or mobile device as a display and control. It communicates with sensors, instruments, probes, or controllers manufactured by different vendors without requiring the user to understand their unique characteristics. The portable version of the platform, accessible through a universal handheld device called an Ubiquitor,

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KEY STATISTICS

Key Stock Statistics

Recent price (10/17/22)	\$9.25
52 week high/low	\$16.50-\$5.90
Shares outstanding (M)	43.4
Market cap (M)	\$401.5
Dividend	Nil
Yield	Nil

Sector Overview

Sector	Information Technology
Sector % of S&P 500	27.3%

Financials (\$M, as of 6/30/22)

Cash & Mkt Securities	6.8
Debt	0.3
Working Capital (\$M)	7.0
Current Ratio	23.4
Total Debt/Equity (%)	3.0%
Payout ratio	NM
Revenue (M) TTM	1.0
Net Income (M) TTM	NM
Net Margin	NM

Risk

Beta	-0.28
Inst. ownership	7%

Valuation

P/E forward EPS	NA
Price/Sales (TTM)	NA
Price/Book (TTM)	35.4

Top Holders

Vanguard Group Inc.
BlackRock Inc.
Penserra Capital Management LLC

Management

Chairman	Dr. Edward Lee
CEO	Dr. Desheng Wang
CFO	Mr. Duncan Lee
Company website	https://focusuniversal.com

PRICE CHART



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uses a smartphone to coordinate the control of different devices. In our view, the Ubiquitor is well positioned to become the industry standard as the efficiency of IoT networks improves. We expect Focus Universal to complete its prototype for this device in 2023.

Focus Universal has also developed a proprietary ultra-narrowband technology that increases the speed and improves the reliability of data transmission over existing power cables. These cables have historically transmitted data at slow speeds, provided limited coverage, and been susceptible to electrical noise and other types of interference. The company believes it has developed a solution with superior noise rejection that provides a scalable, cost-effective solution for connecting devices. Its technology converts wall sockets into access points, thus providing greater reliability and security than wireless networks, which can be more easily accessed by unauthorized users or hampered by walls, floors, and other muting structures. We think that Focus Universal could launch this technology commercially in 2-3 years.

Focus Universal is also developing 5G++, an ultra-narrowband wireless technology that will help wireless providers overcome the current limitations of 5G. Despite its increased speed and reliability, 5G is limited by a narrow communication range, higher energy consumption than 4G, and infrastructure costs slowing its global rollout. Focus Universal's 5G++ technology is designed to expand coverage to an area 3- to 10-times larger than that provided by standard 5G, and thus to reduce the need for (and the cost of) new infrastructure. The company's ultra-narrowband technology will also lower energy consumption by up to 6,000x less than current 5G— an important issue as 5G base stations typically use at least twice as much power as 4G stations. This could provide significant cost savings for network operators and an attractive licensing opportunity for Focus Universal.

Similarly, in the software space, Focus Universal has developed a “user interface machine auto generation platform” (UIMAD). The platform simplifies software development for IoT devices by providing a common middle layer between programming languages and application software. The UIMAD platform resembles low-code or no-code programming in that it reduces the need for traditional hand coding and thus helps to accelerate application development. However, due to integration challenges, the absence of customization, and security risks, major software companies such as Microsoft, IBM, Oracle, SAP, and Salesforce have not developed their own UIMAD platforms. As such, we believe that Focus Universal's UIMAD could attract licensing interest.

Addressing the limits of Moore's Law, Focus Universal has also developed “device-on-a-chip” technology (DoC) that combines integrated circuit components in a single integrated

chip (IC). A DoC works as a single component but can handle entire device functions. In contrast to integrated chips, which focus on hardware-hardware integration and limit integration to the component level, DoC includes both hardware and software, thus strengthening performance. DoC uses less power, increases reliability, and offers a smaller package with fewer required interconnections between components. As a result, we believe that DoC technology is better suited than traditional IC for IoT devices that are increasingly custom-designed and manufactured.

COMPETITIVE ADVANTAGE

As mentioned earlier, Focus Universal's technologies were created to simplify the design and production process for the Internet of Things (IoT) industry, the network created by billions of internet-compatible devices, whose growth has been limited by interoperability challenges among devices with different technical specifications and functional capabilities.

The company's Universal Smart Instrumentation Platform (USIP) is designed to address these interoperability challenges and to facilitate data sharing among devices. It helps product developers to lower costs, shorten design and development cycles, and reduce natural resource consumption. USIP integrates cloud technology, wired and wireless communications, software programming, instrumentation, artificial intelligence, and sensor networks into a single platform. That makes circuit design faster and cheaper than it is when end users build network components from scratch. Similarly, in the software space, Focus Universal has developed a “user interface machine auto generation platform” (UIMAD). The platform simplifies software development for IoT devices by providing a common middle layer between programming languages and application software. The middle layer includes 90% of the necessary coding, allowing software engineers to program an application with relatively few lines of additional code.

Over the long term, we expect manufacturers to use the company's technology to reduce hardware and software development costs for IoT devices. In our view, the Electronic Equipment, Instruments, and Components subsector of the Information Technology sector has been largely mature prior to the evolution of IoT. Thus, we expect the subsector to see renewed growth in the coming years, and for Focus Universal to be well positioned to participate in this growth over the long-term.

Commercially, we like that Focus Universal does not have large quantities of old inventory and dated products on its balance sheet, as it migrates to next-generation products in smart home IoT,

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PEER COMPARISON

Company	Ticker	Recent Price (\$)	52-Week High (\$)	52-Week Low (\$)	Mkt. Cap (\$MIL)	1-yr Price Change (%)	1-yr Rev Growth (%)	1 YR EPS Growth (%)	P/E Ratio	Beta	Yield (%)
FOCUS UNIVERSAL INC	NASDAQ: FCUV	9.25	16.50	5.90	401	13	-15	NA	NA	-0.28	NA
SEQUANS COMMUNICATIONS SA	NYSE: SQNS	3.58	6.20	2.28	171	-19	0	NA	NA	0.85	NA
CAMBIUM NETWORKS CORP	NASDAQ: CMBM	17.70	36.15	12.4	477	-48	21	87	13.5	0.86	NA
VIVINT SMART HOME INC	NYSE: VVNT	6.85	13.29	3.26	1458	-25	18	NA	NA	1.21	NA

smart agriculture IoT, and smart industrial IoT. Thus, we expect the company to remain flexible as it ramps up R&D efforts to support new initiatives. We also think the company is well positioned to seek M&A activity, given the recent market volatility that has depressed equity valuations for many attractive companies in the global technology marketplace. We think M&A could meaningfully accelerate commercial timelines by acquiring marketing and sales capabilities faster than developing them in-house.

We are encouraged by Focus Universal's expanding IP portfolio, which features a patent on its Universal Smart Device, granted in 2018. In addition, the company has filed and received favorable feedback on its international utility patent application, which covers its PLC technology. In all, Focus Universal has 24 patents and patents pending as of September 2022. We see the potential for 13 of these to be approved before the end of 2022, which could enhance licensing potential and possibly provide new revenue streams, while also allowing the company to maintain control over its intellectual property.

ANALYST COMMENTARY: EARNINGS

To date, Focus Universal has generated modest revenue from the sale of legacy digital, analog, and quantum light meters and filtration products through its U.S. distributor Hydrofarm and, more recently, from smart home installations. The company is currently selling niche products, including fans, filtration, and light-meter devices to customers in the horticulture industry through Hydrofarm, the largest U.S. horticultural distributor, with a roughly 50% market share. These products enable horticultural producers to monitor sensors and other instruments that regulate plant growing conditions, including temperature, humidity, light, pH, and CO₂. Focus Universal plans to migrate over to next-gen devices and circuit layouts, and note that such plans have been delayed due to the COVID-19 pandemic.

Its second commercial market has been in the global smart home market, which includes automation that enables the remote control of lighting, temperature, alarm systems, and household appliances. In 2019, Focus acquired IoT installation and management company AVX. MarketsAndMarkets expects this market to grow from \$78 billion in 2020 to \$135 billion by 2025. While many current smart home products can typically control only a single dedicated function, USIP creates a control hub that can manage multiple functions at a lower overall cost. Although the rollout of this service has been slowed due to the COVID-19 pandemic, we expect the low cost of these products and services and AVX's experience with IoT installation to generate substantial interest among consumers and other industries including medical/health-care, commercial/industrial, and military verticals, over time.

As of June 30, 2022, Focus Universal had \$6.8 million in cash and equivalents, compared with \$8.7 million at the end of 2021. The company had \$7.0 million in working capital and a current ratio of 23.4, which should allow Focus to advance its technologies towards commercialization, noting a modest cash burn expected over the next 12 months. Subsequent to the quarter ended June 30, 2022, the company used \$2 million to purchase 400,000 shares from a legacy shareholder.

Although we expect Focus Universal to require additional capital to fund the production and wider assembly, marketing, and rollout of its power-line communications products and Ubiquitor device, we see potential for the company to penetrate new markets rapidly, given its competitive pricing profile. In addition, with its stock nearly doubling since its 2021 IPO, we see potential for the company to raise additional capital on favorable terms, and to use its equity as a currency in M&A activity.

In 2021, net cash used in operations was \$2.2 million, compared to \$2.0 million in 2020. Net cash used in investing activities was \$23,000, compared to \$1,000 in 2020. Net cash inflows from financing activities were \$10.3 million, driven by proceeds from its August 2021 equity offering, compared with \$347,000 in 2020. In total, Focus Universal recorded \$8.1 million in net cash inflows in 2021, compared with net cash used of \$1.6 million in 2020.

Focus Universal does not pay a dividend, and we do not expect it to initiate one in the near term.

MANAGEMENT

Desheng Wang has been Focus Universal's CEO and a board member since 2014. Dr. Wang has over 20 years of experience in mobile technology, and has served as the president of Vitashower Corp. and Perfecular Inc.

Edward Lee is Focus Universal's chairman and served as president between 2015 and 2019. Since 1996, Dr. Lee has also served as CEO of AIDP, a supplier of dietary supplement ingredients. He is also the vice chairperson of the American Chinese CEO Association.

Of note, Mr. Wang and Dr. Lee own more than half of the company's shares (33% and 19%, respectively), and the management team and its directors own nearly 60% of its shares, in aggregate, as of December 31, 2021.

In August 2022, Focus Universal announced voluntary lock-up agreements with 5%+ holding shareholders for an additional year, until August 30, 2023. During the period, these holders, which accounted for 59.3% of the company's issued and outstanding securities, as of June 30, 2022, agreed not to offer to sell, contract to sell, or otherwise dispose of any securities, directly or indirectly.

As of September 2022, Focus Universal's board consisted of six members, including a majority of independent directors. Independent directors chair the primary audit, compensation, and nominating/corporate governance committees.

RISKS

Risks to an investment in Focus Universal include intense competition (including competition from larger, better-funded companies), the potential for product or technological obsolescence, and possible customer acceptance of new and unproven products. The company also faces customer concentration risk, as one customer, Hydrofarm, accounts for most of its commercial revenues to date.

In addition, Focus Universal's products and the industries in which those products are used (including power-line grids) are subject to U.S. and foreign regulation, which could limit the market for the Ubiquitor device and smart home installation.

Lastly, we see risk in Focus Universal's exposure to operations in China, particularly in its supply chain, amid trade and geopolitical tensions in the region. However, we note that the company plans to diversify its operations over the coming years.

RECENT DEVELOPMENTS

Shares of Focus Universal began trading on the Nasdaq on August 31, 2021, following an equity offering of 2 million shares at \$5 per share. Since the listing, the share price has nearly doubled, recently trading over \$9, despite weak global markets for small-cap technology companies.

In August 2022, Focus Universal announced the formation of a sales department and the hiring of key personnel, including a new VP of Sales and Marketing Raymond Cazares, who brings over 35 years of experience, at branded companies including Grow Generation and Bartels Harley Davidson.

Also in August 2022, the company announced the formation of Lusher Bioscientific, a company focused on the next generation of IoT technology sensors and surrounding products. Lusher will sell its lines of branded technologies under the Hydropublica and Garden Prime trademarked brands that Focus Universal owns.

In June 2022, Focus Universal was included in the Russell 2000 Index, one of the most widely cited performance benchmarks for emerging U.S. companies.

In January 2022, Focus Universal shares began trading on the Nasdaq Global Market (GM) Exchange after trading on the Capital Market (CM) Exchange since its August 2021 uplist from the OTC.

In November 2021, Focus Universal announced the appointment of Irving Kau as vice president of finance and head of investor relations. Mr. Kau brings an established record of helping companies grow across multiple geographies and has served as CFO of a publicly listed AgTech company for almost ten years.

On August 31, 2021, Focus Universal announced the closing of its public offering of 2,000,000 shares. On September 2, 2021, the company announced the exercise of the overallotment option by its underwriters, resulting in the issuance of an additional 300,000 shares. Including the overallotment, it raised \$11.5 million in gross proceeds.

In December 2019, Focus Universal filed an international utility patent application to protect its proprietary Power Line Communication technology, which enables data transmission over an existing power grid.

In March 2019, Focus Universal acquired AVX Design and Integration, a smart home solutions provider, including the integrated management of lighting, audiovisual, home theater, and home security systems.

Steve Silver,
Argus Research Analyst

INCOME STATEMENT

Growth Analysis (\$MIL)	2019	2020	2021	Q1 2022	Q2 2022
Revenue	1.5	1.7	1.4	0.2	0.0
Gross Profit	0.1	0.3	0.3	0.0	0.0
SG&A	2.7	2.7	3.1	1.4	1.0
R&D	0.3	0.3	0.2	0.6	0.2
Operating Income	-2.8	-2.7	-3.0	-1.9	-1.2
Interest Expense	-0.1	-0.2	-0.1	0.0	0.0
Pretax Income	-2.7	-2.5	-3.2	-1.9	-1.1
Tax Rate (%)	NA	NA	NA	NA	NA
Net income	-3.2	-2.5	-3.2	-1.9	-1.1
Diluted Shares	40.9	41.0	41.7	43.3	43.4
EPS	-0.08	-0.06	-0.08	-0.04	-0.02
Dividend	NA	NA	NA	NA	NA
Growth Rates (%)					
Revenue	NA	13	-18	NA	NA
Operating Income	NA	NA	NA	NA	NA
Net Income	NA	NA	NA	NA	NA
EPS	NA	NA	NA	NA	NA
Valuation Analysis					
Price (\$): High	12.25	5.00	25.25	NA	NA
Price (\$):Low	5.00	1.50	3.56	NA	NA
PE: High	NA	NA	NA	NA	NA
PE: Low	NA	NA	NA	NA	NA
PS: High	NA	NA	NA	NA	NA
PS: Low	NA	NA	NA	NA	NA
Yield: High	NA	NA	NA	NA	NA
Yield: Low	NA	NA	NA	NA	NA
Financial & Risk Analysis (\$MIL)					
Cash	2.2	0.6	8.7	7.8	6.8
Working Capital	2.0	0.5	8.6	7.1	7.0
Current Ratio	5.6	1.9	16.1	13.2	23.4
LTDebt/Equity (%)	1.4	5.1	2.5	1.4	2.0
Total Debt/Equity (%)	2.8	10.2	4.4	3.8	3.0
Ratio Analysis					
Gross Profit Margin	6.7	17.6	21.4	9.0	11.1
Operating Margin	NA	NA	NA	NA	NA
Net Margin	NA	NA	NA	NA	NA
Return on Assets (%)	NA	NA	NA	NA	NA
Return on Equity (%)	NA	NA	NA	NA	NA
Op Inc/Int Exp	NA	NA	NA	NA	NA
Div Payout	NA	NA	NA	NA	NA

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