Q1 2022 REPORT

ESPRESSIF 乐鑫科技

Contents

About Espressif

ESPRESSIF
SHARE :: CONNECT :: INNOVATE

A Leading AIoT Solution Provider

Espressif Systems is a public, multinational, fabless, semiconductor company focused on developing cutting-edge, wireless-communication, low-power chipsets. By leveraging wireless computing, we provide green, versatile and cost-effective AIoT solutions. We have accomplished a hardware-and-software, closed-loop development cycle for a series of core technologies, including RF, Wi-Fi & Bluetooth LE network protocol stacks, RISC-V MCUs, AI instruction sets and algorithms, operating systems, toolchains, compilers, IoT software application frameworks, Cloud, etc.

We have a diverse team of engineers from around the world. All company branches employ more than 500 members of staff from almost 30 countries and regions, +75% of whom are based in our Research & Development Department. We have eight R&D centers in five countries, including China (4 out of 8), India, the Czech Republic, Brazil and Singapore. The company's increasing reputation in recent years has been instrumental in attracting talented engineers from across the world. Being united by our passion for technology, our diversity is our strength, as it allows the creative blending of different kinds of knowledge, perspectives and ways of thinking.

TOP 1
global Wi-Fi MCU market share*

products distributed all over the world

millions of users

Czechia

India

China
Shanghai │ Suzhou
Wuxi │ Hefei

Brazil

Singapore

* Market share data from TSR

Business Highlights (Unaudited)

Key Financial Data (Unaudited)

CNY	Three Months Ended		Fiscal Year
	March 31, 2022	March 31, 2021	2021
Consolidated Statement of Income Data			
Revenue	288,948,065	270,513,645	1,386,371,541
Gross profit	118,589,940	108,219,817	549,025,732
Selling expenses	9,194,881	9,789,393	41,815,693
General and administrative expenses	13,404,541	12,202,888	55,485,146
Research and development expenses	74,848,290	58,890,426	271,689,981
Net income	27,852,092	33,999,375	198,427,708
Earnings per share:			
Basic	0.3475	0.4248	2.4775
Diluted	0.3475	0.4248	2.4566

	March 31, 2022	December 31, 2021	
Consolidated Balance Sheet Data			
Cash, cash equivalent and investments	1,027,717,008	1,114,558,363	
Working capital	1,791,815,378	1,749,605,271	
Total assets	2,094,943,752	2,129,056,143	
Long-term obligations	66,739,721	68,244,392	
Total shareholders' equity	1,874,366,128	1,823,017,913	

	Three Months Ended		Fiscal Year
	March 31, 2022	March 31, 2021	2021
Consolidated Cash Flow Data			
Net cash flow from operating activities	-36,870,506	-13,498,498	31,460,857
Non-GAAP Adjustment			
Stock-based compensation	4,825,008	5,423,960	21,787,964
Non-GAAP net income	32,677,101	39,423,335	220,215,672

Key Financial Indicators (Unaudited)

	Three Months Ended		Fiscal Year
	March 31, 2022	March 31, 2021	2021
Gross margin	41.04%	40.01%	39.60%
R&D-to-sales ratio	25.90%	21.77%	19.60%
EBITDA margin	11.67%	13.71%	16.78%
Weighted ROE	1.51%	2.07%	11.52%

Financial Analysis

Revenue and Gross Margin

Espressif's revenue during the first quarter of 2022 was CNY 288.95 million, which marked an increase of 6.81% compared to the same period of last year. The Internet of Things industry is still growing, but the first quarter of 2022 was an off-peak period for the company. In addition, the ongoing global pandemic and the impact of the Omicron variant, in particular, resulted in extended lockdowns for several Chinese cities, which has affected the downstream demand. Thus, the company sales increased only slightly compared with last year's same period. The gross margin for the reporting period was 41.04%.

Research and Development Expenses

The R&D expenditure in Q1 2022 was CNY 74.85 million, that is, 27.10% up compared with the same period of last year. In fact, the company's development expanded significantly and it now includes the integration of "Wireless SoC + AI + Software + Cloud", which has required substantial R&D investment. At the same time, the company is focused on improving the efficiency of its research-and-development, with the aim to speed up the release of new products. The two series of chips released in 2020, ESP32-S3 and ESP32-C3, have contributed to the company's financial performance in Q1 2022, and the three new chips released in 2021, ESP32-H2, ESP32-C2 and ESP32-C6, will enter the stage of mass production and marketing promotion soon. Our cloud platform, ESP Rainmaker, will also contribute to the revenue that will be accumulated throughout 2022.

Inventories

The closing inventory balance at the end of Q1 2022 was CNY 396.18 million, thus increasing by 21.46% since the end of the previous year. Considering the following factors collectively, the company has maintained an active stocking strategy, while raw materials and finished products increased during the reporting period.

- We expect that wafer supply will remain tight in the current year.

- We continue to explore new business opportunities, such as enterprise-wide business applications (e.g., industrial automation, healthcare, energy control, etc.) which have already started integrating Internet connectivity into their offerings. Additionally, it is expected that consumption by individuals will recover as soon as the pandemic is controlled in China.

- The life cycle of Espressif products is fairly long. We provide a longevity commitment of up to 12 years, and the company is strong enough to manage any inventory backlog.
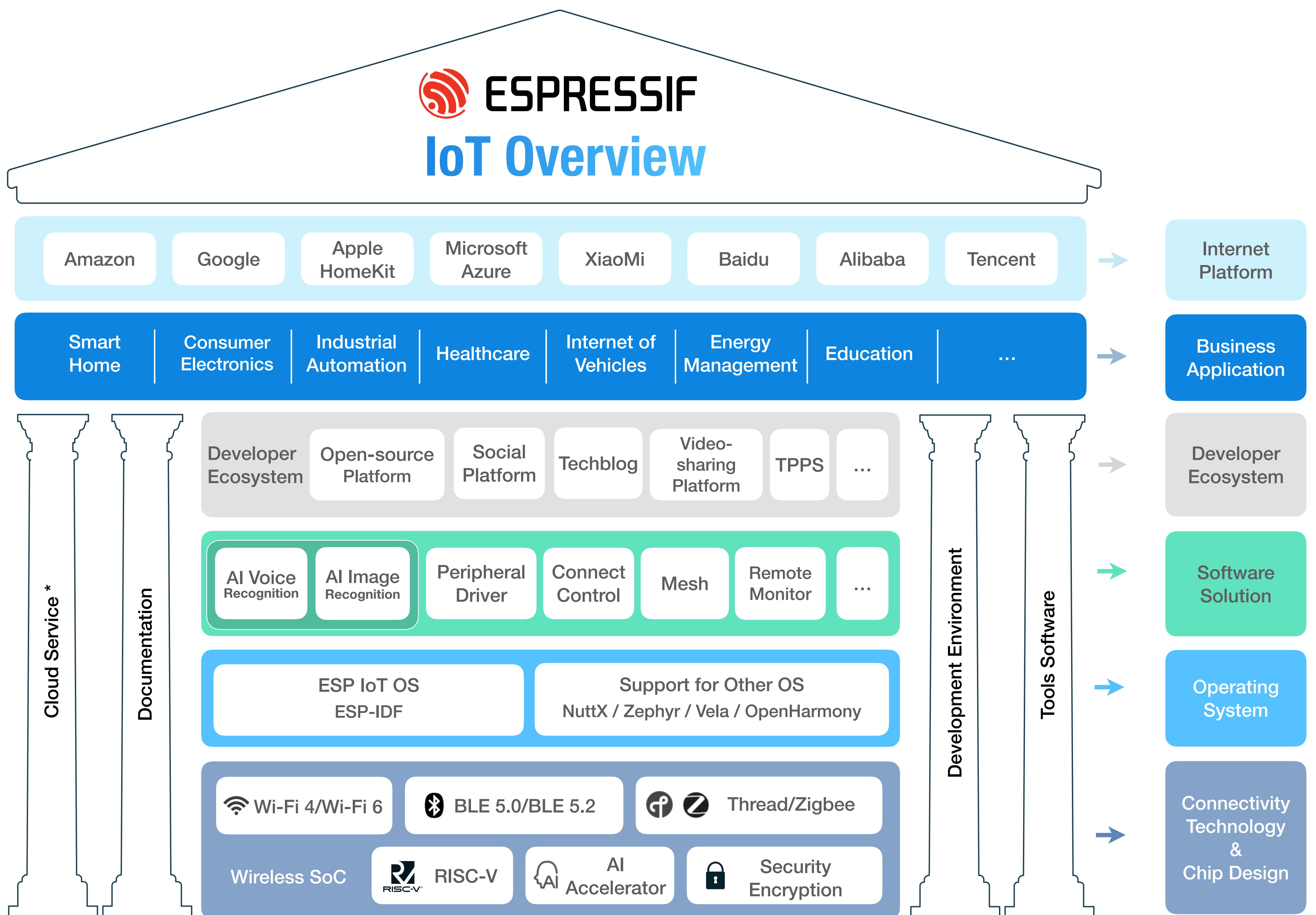
The cumulative inventory has led to a net cash outflow from operating activities during the first quarter of 2022.

Management Report

Business Strategy

Espressif Systems' business strategy emanates from our four key capabilities and our four key services/products. More specifically, the four key capabilities include Espressif's connectivity and chip design, OS-level development, software solutions, and our engagement with our ecosystem. Our four key services and products include our development environment, software tools, cloud services, and detailed documentation support. The above-mentioned structure ensures that our products are the heart of numerous commercial AIoT applications in different markets, including smart home, consumer electronics, industrial automation, healthcare, etc.

ESPRESSIF
IoT Overview

Amazon	Google	Apple HomeKit	Microsoft Azure	XiaoMi	Baidu	Alibaba	Tencent	→	**Internet Platform**

Smart Home	Consumer Electronics	Industrial Automation	Healthcare	Internet of Vehicles	Energy Management	Education	...	→	**Business Application**

Developer Ecosystem — Open-source Platform, Social Platform, Techblog, Video-sharing Platform, TPPS, ... → **Developer Ecosystem**

AI Voice Recognition, AI Image Recognition, Peripheral Driver, Connect Control, Mesh, Remote Monitor, ... → **Software Solution**

ESP IoT OS ESP-IDF | Support for Other OS NuttX / Zephyr / Vela / OpenHarmony → **Operating System**

Wi-Fi 4/Wi-Fi 6 | BLE 5.0/BLE 5.2 | Thread/Zigbee

Wireless SoC | RISC-V | AI Accelerator | Security Encryption → **Connectivity Technology & Chip Design**

Cloud Service * · Documentation · Development Environment · Tools Software
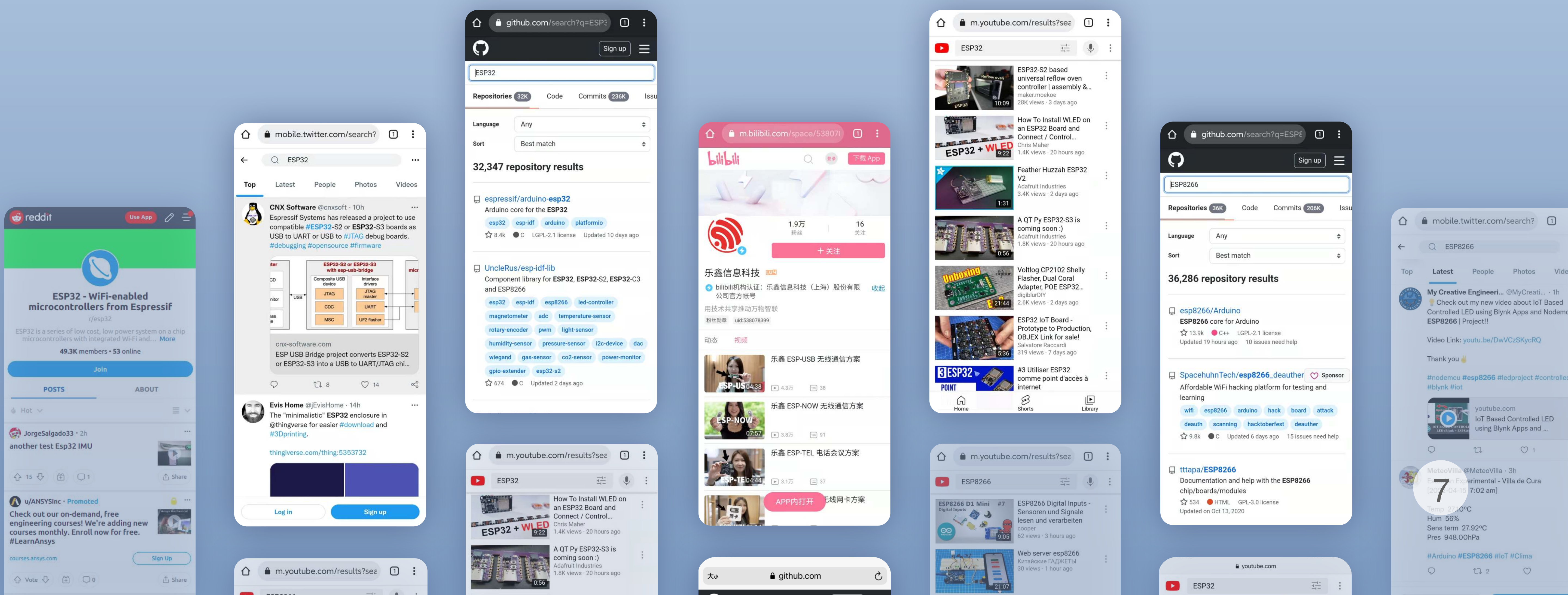
* ESP RainMaker®, an AIoT cloud platform that enables customers to quickly build their own solutions based on enterprise-grade cloud computing, with a single-click deployment.

Developer Community Metrics

ITEM	April 27, 2022	Dec 31, 2021	change%
GitHub (Worldwide open-source development platform)			
ESP32 Projects	32,742	29,007	13%
ESP8266 Projects	36,438	35,055	4%
Gitee (Chinese open-source development platform)			
ESP32 Projects	2,719	2,592	5%
ESP8266 Projects	1,926	1,867	3%
CSDN (Chinese Tech-blog platform)			
Search results for ESP32	83,381	79,188	5%
Search results for ESP8266	31,055	30,033	3%
Hackaday (open-source hardware platform)			
ESP32 projects	4,029	3,816	6%
ESP8266 projects	5,871	5,789	1%
Reddit			
ESP32 group members	49,758	46,540	7%
ESP8266 group members	55,168	53,523	3%
bilibili (Chinese video-sharing platform)			
Official account followers	18,996	17,502	9%
Official account views	455,506	390,000	17%
YouTube			
Official account subscribers	11,800	11,600	2%
Official account views	567,465	556,846	2%
ESP32 community videos	522,995	466,459	12%
ESP8266 community videos	725,961	687,155	6%
Views of most watched ESP32 community video	around 2.5m	around 1.5m	
Views of most watched ESP8266 community video	around 1.5m	around 1.5m	

N.B.:

Statistical data derived from different platforms may be based on different collecting methods. It is possible for certain platforms to modify their algorithms from time to time and, therefore, impact the resulting statistical data. The above-mentioned data resulted from the Company's research.

Ownership of Securities

Basic information of securities

Share types	Ordinary share
Share capital	80,374,966 (as of March 31, 2022)
Listing	Shanghai Stock Exchange (SSE)
Ticker	688018.SH
Listing Date	2019-07-22

Shareholder Structure as of Mar 31, 2022

Shareholder	Share Numbers	Percentage (%)
Espressif (Hong Kong) Investment Ltd.	34,860,000	43.37
Shinvest Holding Ltd.	2,804,446	3.49
Yadong Beichen Investment Management Co., Ltd.	2,568,484	3.20
MERRILL LYNCH INTERNATIONAL	2,056,361	2.56
BOC - Franklin Templeton Sealand Fund	1,791,489	2.23
ABC - Franklin Templeton Sealand Fund	1,251,882	1.56
Ningbo Meishan Free Trade Port Le Tun Investment Management Partnership (Limited Partnership)	1,046,030	1.30
MORGAN STANLEY & CO. INTERNATIONAL PLC.	940,162	1.17
CMB－Franklin Templeton Sealand Fund	915,473	1.14
BOC - Cathay Pacific CES Semiconductor Chip ETF	886,724	1.10
Top ten shareholders	**49,121,051**	**61.12**
Other public shareholders	31,253,915	38.88
Total of outstanding shares	**80,374,966**	**100.00**

Risks and Uncertainties

Financial Risk

The Company performs periodic credit evaluations of its customers' financial condition and generally requires no collateral from its customers. The Company provides an allowance for expected credit losses based on the net amount expected to be collected on such receivables. Losses have not been significant for any of the periods presented.

R&D Risk

Espressif's research and development strategy is focused on leveraging new technologies for the creation of innovative AIoT products. Any delays or changes in the development of these technologies by our industry partners, or a failure of our products to achieve market acceptance could compromise our competitive position.

Competitors

As the market for AIoT products grows, we face an increasing antagonism from relatively large competitors, such as Realtek, MediaTek, Infineon, NXP, Qualcomm and others. Intense competition from current players as well as new entrants may reduce our product sales and market share.

Suppliers

A significant portion of the Company's products is fabricated by Taiwan Semiconductor Manufacturing Co. (TSMC). The inability of TSMC to deliver wafers to the Company in a timely manner could impact the production of the Company's products for a substantial period of time, which could have an adverse effect on the Company's business, financial condition, results of operations and cash flow.

Customers

The Company sells directly to end customers, distributors, solution providers and contract manufacturers. Our customers are a mix of several big customers and numerous small customers. The concentration ratio for our top-five customers was 29.05%, 42.18% and 50.96% during the fiscal years of 2021, 2020 and 2019, respectively. None of the customers accounted for greater than 10% of our revenue during the fiscal year of 2021.

Financial Statements (Unaudited)

Consolidated Balance Sheet (Unaudited)

CNY	March 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and bank balances	414,614,465	367,149,078
Transactions of monetary assets	613,102,542	747,409,285
Notes receivable	6,894,036	11,600,177
Accounts receivable, net	235,629,926	306,823,758
Prepayments	13,725,689	8,172,703
Other receivables	9,483,712	9,519,869
Including: Interest receivable	761,091	298,796
Inventories	396,178,543	326,168,928
Other current assets	256,024,366	210,555,311
Total current assets	1,945,653,280	1,987,399,110
Non-current assets:		
Investment in other equity assets	56,595,200	56,600,700
Fixed assets	48,801,038	46,176,368
Construction work in progress		
Right-of-use assets	21,254,676	21,731,123
Intangible assets	2,996,581	3,191,335
Long-term deferred expenses	7,195,129	7,582,637
Deferred income tax assets	12,447,849	6,374,870
Total assets	2,094,943,752	2,129,056,143

Consolidated Balance Sheet (Unaudited)

CNY	March 31, 2022	December 31, 2021
Liabilities & Shareholders' Equity		
Current liabilities:		
Accounts payable	73,929,814	138,572,198
Contract liabilities	23,482,662	17,184,196
Payroll payable	29,624,227	66,168,763
Taxes payable	8,169,446	6,472,494
Other payable	7,662,710	754,261
Non-current liabilities due within one year	10,969,044	8,641,928
Total current liabilities	153,837,902	237,793,839
Non-current liabilities:		
Lease liabilities	11,149,143	12,116,036
Deferred income tax liabilities	55,590,578	56,128,356
Total liabilities	220,577,623	306,038,230
Owners' equity (or shareholders' equity):		
Share capital	80,374,966	80,158,963
Capital reserves	1,291,696,374	1,266,771,034
Other comprehensive income	-17,356,799	-15,711,579
Surplus reserves	33,462,951	33,462,951
Retained earnings	486,188,636	458,336,543
Total shareholder equity	1,874,366,128	1,823,017,913
Total liabilities and shareholders' equity	2,094,943,752	2,129,056,143

Consolidated Income Statement (Unaudited)

	Three Months Ended	
CNY	**March 31, 2022**	**March 31, 2021**
Revenue	288,948,065	270,513,645
Cost of Revenue	170,358,125	162,293,828
Gross Profit	118,589,940	108,219,817
Taxes and surcharges	518,433	669,524
Selling expenses	9,194,881	9,789,393
General and administrative expenses	13,404,541	12,202,888
Research and development expenses	74,848,290	58,890,426
Financial expenses	568,027	-1,084,134
Including: Interest expenses	212,682	
Interest income	696,647	1,056,570
Add: Other income	252,748	211,159
Investment income (mark"-" for loss)	3,180,588	3,824,922
Incomes from changes in fair value (mark"-" for loss)	3,076,241	1,721,331
Credit impairment losses (mark"-" for loss)		8,531
Assets impairment losses (mark"-" for loss)	-412,271	-186,230
Assets disposal income (mark"-" for loss)		
Operating Income	26,153,075	33,331,433
Add: Non-operating revenues		
Less: Non-operating expenses		23,470
Income before income taxes	26,153,075	33,307,963
Provision (benefit) for income taxes	-1,699,018	-691,412
Net Income	27,852,092	33,999,375
Earnings per share		
Basic	0.3475	0.4248
Diluted	0.3475	0.4248

	Three Months Ended	
CNY	**March 31, 2022**	**March 31, 2021**
Net Income	27,852,092	33,999,375
Other comprehensive income (mark"-" for loss), after tax		
Changes to the fair value of investment in other equity instruments	-5,500	9,280
Currency translation reserves	-1,639,720	2,769,633
Other comprehensive income (mark"-" for loss)	-1,645,220	2,778,913
Comprehensive income	26,206,872	36,778,288

Consolidated Cash Flow Statement (Unaudited)

	Three Months Ended	
CNY	March 31, 2022	March 31, 2021
Operating Activities		
Cash from sales of merchandise and provision of services	392,796,778	296,301,671
Tax refund	27,316,374	14,728,575
Other received cash related to operational activities	9,288,587	1,533,905
Subtotal of cash inflow from operational activities	429,401,738	312,564,150
Cash paid for merchandise and services	336,017,954	214,649,468
Cash paid to and for employees	107,719,618	89,711,836
Cash paid for taxes and surcharges	6,938,817	5,945,478
Other paid cash related to operational activities	15,595,855	15,755,867
Subtotal of cash outflow from operational activities	466,272,244	326,062,649
Net cash flow provided by operating activities	-36,870,506	-13,498,498
Investment activities		
Cash arising from disposal of investments	833,768,443	858,355,385
Cash arising from investment income	1,427,583	
Net cash arising from disposal of fixed assets, intangible assets and other		5,510
Other received cash related to investment activities		
Subtotal of cash inflow from investment activities	835,196,026	858,360,895
Cash paid for purchase and construction of fixed assets, intangible assets and other long-term assets	12,606,551	4,900,519
Cash paid for investments	755,100,000	909,770,000
Other paid cash relating to investment activities		
Subtotal of cash outflow from investment activities	767,706,551	914,670,519
Net amount of cash flow provided by investment activities	67,489,475	-56,309,624
Financing activities		
Cash arising from the issuance of common stocks	20,316,335	
Including: Cash arising from subsidiaries absorbing investments by		
Subtotal of cash inflow from financing activities	20,316,335	
Cash paid for the distribution of dividends and profits, or payment of dividends and profits to minority shareholders by subsidiaries		32,742,816
Other cash payments relating to financing activities	1,236,611	1,936,027
Subtotal of cash outflow from financing activities	1,236,611	34,678,843
Net cash flow provided by financing activities	19,079,723	-34,678,843
Impact of fluctuation in exchange rate on cash and cash equivalents	-2,226,953	3,047,730
Net increase in cash and cash equivalents	47,471,739	-101,439,235
Add: Cash and cash equivalents at the commencement of the period	367,142,726	503,239,843
Cash and cash equivalents at the end of the period	414,614,465	401,800,608

Further Information

Terms and Conditions of the Report

Responsibility Statement

The Board of Directors, the Board of Supervisors and executive management of the Company warrant that the contents of this report are true, accurate and complete, and do not contain any false information, misleading statements or material omissions, severally and jointly accepting any legal responsibility thereof.

Shanghai, 29 April 2022
Espressif Systems

Board of Directors

Teo Swee Ann
Founder and Chairman

Ng Pei Chi
Information Technology Officer

Teo Teck Leong
Shareholder-elected

Xu Xin
Shareholder-elected

Lan Yuzhe
Independent Director

Koh Chuan Koon
Independent Director

Lee Sze Chin
Independent Director

Board of Supervisors

Lv Zhihua
Employee-elected

Fu Hanyu
Shareholder-elected

Wang Yiwen
Shareholder-elected

Executive Management

Teo Swee Ann
Founder and CEO

Wang Jue
Deputy General Manager

Shao Jingbo
Financial Director

Forward-looking Statements

This report contains forward-looking statements and/or assessments about the business, financial condition, performance and strategy of the Espressif Group. These statements and/or assessments are based on assumptions and management expectations resting upon currently available information and current estimates. These are subject to a multitude of uncertainties and risks, many of which are partially or entirely beyond Espressif's control. Espressif's actual business development, financial condition, performance and strategy may, therefore, differ from what is discussed in this report.

List of abbreviations

AI	Artificial Intelligence
AIoT	Artificial Intelligence and Internet of Things
Bluetooth LE	Bluetooth Low Energy
CEO	Chief Executive Officer
CES	Consumer Electronics Show
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
Espressif	ESPRESSIF SYSTEMS (SHANGHAI) CO., LTD.
ETF	Exchange Traded Fund
G&A	General and Administrative
GM	Gross Margin
IoT	Internet of Things
R&D	Research & Development
RF	Radio Frequency
RISC-V MCU	Reduced Instruction Set Computer-V Microcontroller Unit
ROE	Return on Earnings
SG&A	Selling, General and Administrative
SH	Shanghai
SoCs	System on Chips
TPPS	Third-Party Plugins
TSR	Techno Systems Research

ESPRESSIF

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