



ESPRESSIF
乐鑫科技

SHARE :: CONNECT :: INNOVATE



Q2
Half-Year
Report
2024

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Build Smart with **Espressif**



As a public, multinational, fabless semiconductor company (Espressif Systems, SSE: 688018.SH), we develop cutting-edge, low-power wireless communication chipsets. Our AIoT solutions are green, versatile, and cost-effective. We have a closed-loop development cycle for core technologies, including Wi-Fi & Bluetooth LE & IEEE 802.15.4 protocols, RF, RISC-V MCUs, AI algorithms, operating systems, toolchains, AIoT frameworks, and Cloud services.



1 Billion+

Global IoT Chip Shipment



195+ Patents

In AIoT Technology



10,000+

Satisfied Customers Worldwide



Global Leader

In Wi-Fi MCU Market



2 Million+

Active Ecosystem Followers and Developers

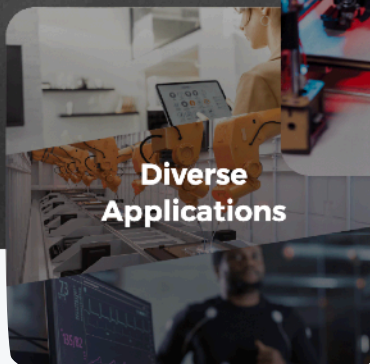
SHARE
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Open-source Communities



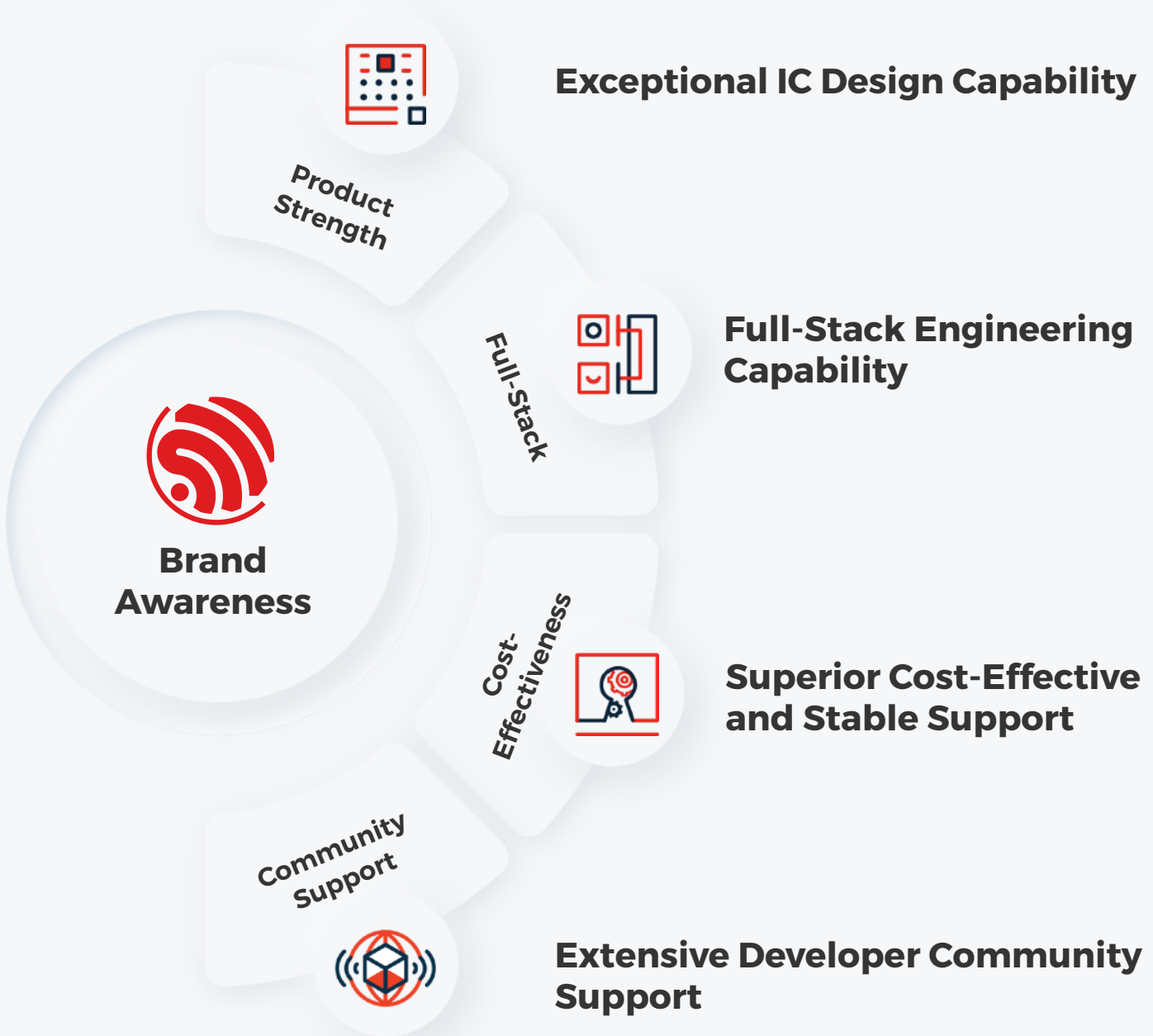
Conferences & Education Initiatives



Diverse Applications

Core Competitiveness

Espressif's business model follows a B2D2B (Business-to-Developer-to-Business) approach, making brand development a crucial component of our company's strategy. Product strength, differentiation, cost-effectiveness and community support all contribute to the power of our brand.



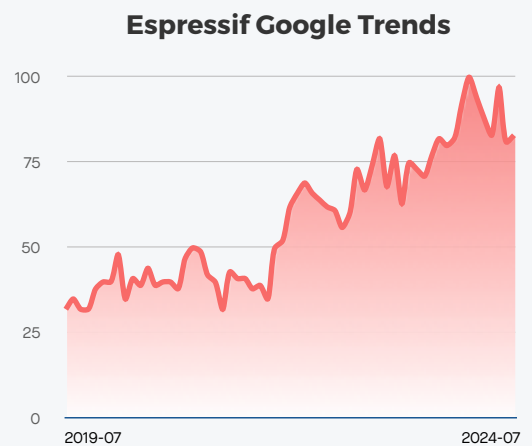
Brand Awareness

The ESP32 and Espressif brands have a strong sense of recognition among users. This recognition has become a key factor in our competitive advantage and success. Users identify with the ESP32 brand due to its reliability, performance, and versatility, which have been proven across various applications and industries. This strong brand power not only fosters customer retention but also attracts new users, thereby solidifying Espressif's position in the market.



Exceptional IC Design Capability

Espressif independently designs and develops its own chip products, with core IPs being self-developed. These chips are equipped with rich features, ensuring that Espressif's products stand out in the market and avoid the pitfalls of homogenized competition. By controlling the entire design process, Espressif can innovate rapidly and introduce unique functionalities that set our products apart from competitors, providing a distinctive edge in the IoT semiconductor industry.



Full-Stack Engineering Capability

Espressif possesses comprehensive engineering development capabilities that span from IP development to complete chip design, operating systems, firmware, software frameworks, application solutions, hardware design, edge AI, cloud, and apps. This full-stack engineering expertise allows Espressif to offer highly integrated solutions that meet a wide range of customer needs. The ability to control and optimize every layer of the technology stack is unique in the industry and enables Espressif to deliver superior products and services that are seamlessly integrated and highly efficient.

Superior Cost-Effective and Stable Support

Espressif's products are known for their high performance and low cost, making them competitive in the market. We provide the cost efficiency necessary to promote large-scale commercialization in downstream industries. Additionally, we ensure the long-term availability of our products and offer stable and enduring software support, ensuring that customers can rely on their investments for extended periods. This commitment to value and reliability strengthens customer trust.

Extensive Developer Community Support

Espressif has garnered support from a vast community of professional engineers who are familiar with Espressif's development platform and actively promote its value proposition. This large and engaged community not only aids in the rapid adoption and dissemination of Espressif's technologies but also contributes to continuous improvement through feedback and shared knowledge. The robust community support amplifies Espressif's market presence and enhances our reputation as a trusted and innovative leader in the industry.

Core Technologies

SoCs

ESP8266, ESP32, ESP32-S, ESP32-C, ESP32-H and ESP32-P Series

Espressif offers integrated, reliable, and energy-efficient SoCs with robust image and voice data processing capabilities for Wi-Fi, Bluetooth Low Energy, Thread and Zigbee, catering to various segments of the IoT market.

AI

AFE (Audio Front-End) Algorithms

qualified as a “Software Audio Front-End Solution” for Amazon Alexa Built-in devices.

3A Audio Algorithms

including Acoustic Echo Cancellation (AEC), Audio Noise Suppression (ANS) and Automatic Gain Control (AGC), which significantly reduce noise and echo in calls, keeping high-quality voice intercoms stable at all times.

OS

ESP-IDF

Espressif’s official IoT Development Framework.

It provides a self-sufficient SDK for any generic application-development on these platforms, using programming languages such as C and C++.

ESP-IDF currently powers millions of devices in the field, and enables building a variety of network-connected products, ranging from simple light bulbs and toys to major appliances and industrial devices.

Cloud

ESP RainMaker

A comprehensive, development-free and maintenance-free AIoT solution for private Cloud deployment.

It is an all-inclusive solution that covers everything from the underlying chip to device firmware, third-party voice-assistant integrations, mobile apps and the dashboard.

Customers can build their own AIoT devices and ecosystem, with ESP RainMaker.

Software

With our open-source software, such as Espressif’s IoT Development Framework ESP-IDF, Audio Development Framework ESP-ADF, Mesh Development Framework ESP-Mesh-Lite, Cloud Connectivity Platform ESP RainMaker, Facial Recognition Development Framework ESP-WHO, and Voice-Controlled Assistant ESP-Skainet, we have developed a framework for building AIoT applications, which is both complete and innovative.



Matter

One-stop Matter Solution

This is the culmination of Espressif’s ongoing contribution to the Matter platform in various areas, including protocol formulation, core stack implementation and certification test events.

Business Highlights

Key Financial Data (Unaudited)

CNY	Three Months Ended		Six Months Ended	
	Jun 30, 2024	Jun 30, 2023	Jun 30, 2024	Jun 30, 2023
Consolidated Statement of Income Data				
Revenue	533,020,855	348,880,535	920,212,266	666,997,977
Gross profit	235,129,242	142,936,609	397,496,784	272,454,655
Selling expenses	16,063,290	13,351,348	28,915,851	25,524,250
General and administrative expenses	17,125,846	15,031,928	31,997,654	28,946,961
Research and development expenses	114,836,190	92,701,560	218,682,370	178,184,574
Net income	98,797,587	33,482,914	152,713,070	64,570,344
Net income attributable to Espressif	97,726,982	33,482,914	151,642,464	64,570,344
Earnings per share:				
Basic			1.8116	0.8059
Diluted			1.8116	0.8059
			Jun 30, 2024	Dec 31, 2023
Consolidated Balance Sheet Data				
Working capital			1,101,575,410	999,068,356
Total assets			2,321,889,830	2,203,800,366
Long-term obligations			95,899,888	74,166,946
Total shareholders' equity			1,962,656,198	1,913,000,228
			Jun 30, 2024	Jun 30, 2023
Consolidated Cash Flow Data				
Net cash provided by operating activities	-13,668,172	66,406,199	-25,676,834	99,699,642
Non-GAAP Adjustment				
Stock-based compensation	8,929,762	9,643,201	15,331,190	12,267,568
Non-GAAP net income	107,727,349	43,126,115	168,044,259	76,837,912

Financial Indicators (Unaudited)

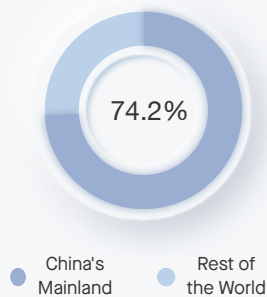
	Three Months Ended		Six Months Ended	
	Jun 30, 2024	Jun 30, 2023	Jun 30, 2024	Jun 30, 2023
Gross margin	44.11%	40.97%	43.20%	40.85%
R&D-to-sales ratio	21.54%	26.57%	23.76%	26.71%
EBITDA margin	19.08%	9.74%	17.78%	10.26%
Net income margin	18.54%	9.60%	16.60%	9.68%
Weighted ROE			7.91%	3.43%

Financial Analysis

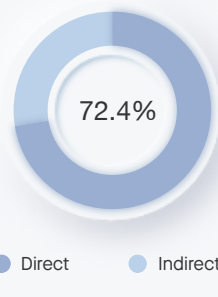
Espressif's total revenue in the first half of 2024 was CNY 920.2 million, marking an increase of 38.0% from CNY 667.0 million in the first half of 2023, due to the expansion of product categories and new customer design-win. The net income attributable to Espressif was CNY 151.6 million, which marked an increase of 134.8% year-on-year, mainly due to the increase of revenue.

The overall gross margin was 43.2%, in which the gross margin for AIoT chips was 49.0%. Benefiting from the low material prices and the higher initial gross margin from new customers, the gross margin of both chips and modules & DevKits improves. Downstream module manufacturers are expanding their customer base, with more projects starting to use Espressif chips. As a key player in the supply chain, module manufacturers purchase chips directly from Espressif. Their business growth has driven an increase in chip revenue. Additionally, the increased use of chips in small devices leads to a higher proportion of chip sales, ultimately resulting in an overall increase in the gross margin. We established a mid-term target of 40% for our overall gross margin to facilitate funding for our future R&D expenses.

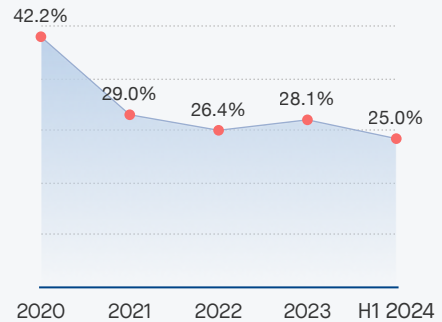
Revenue by Area



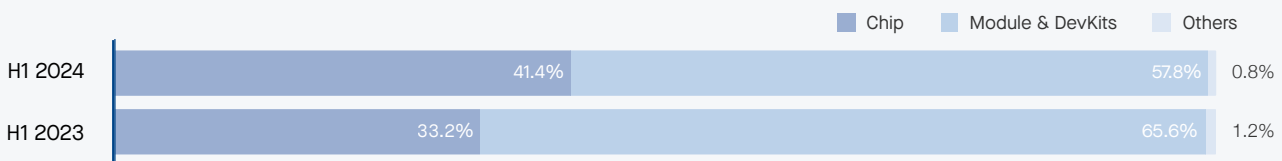
Revenue by Sales Mode



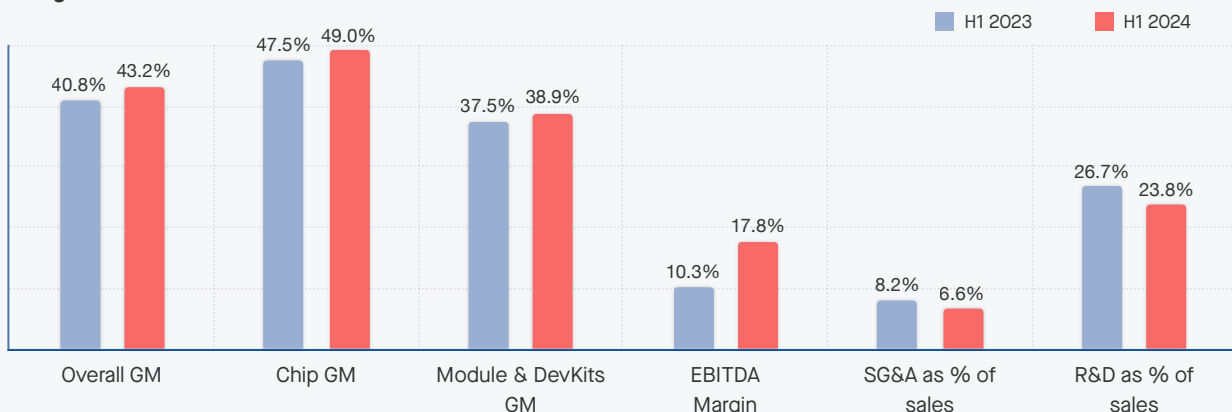
Top-5 Customer Concentration Rate



Revenue by Product Category



Key Financial Indicators

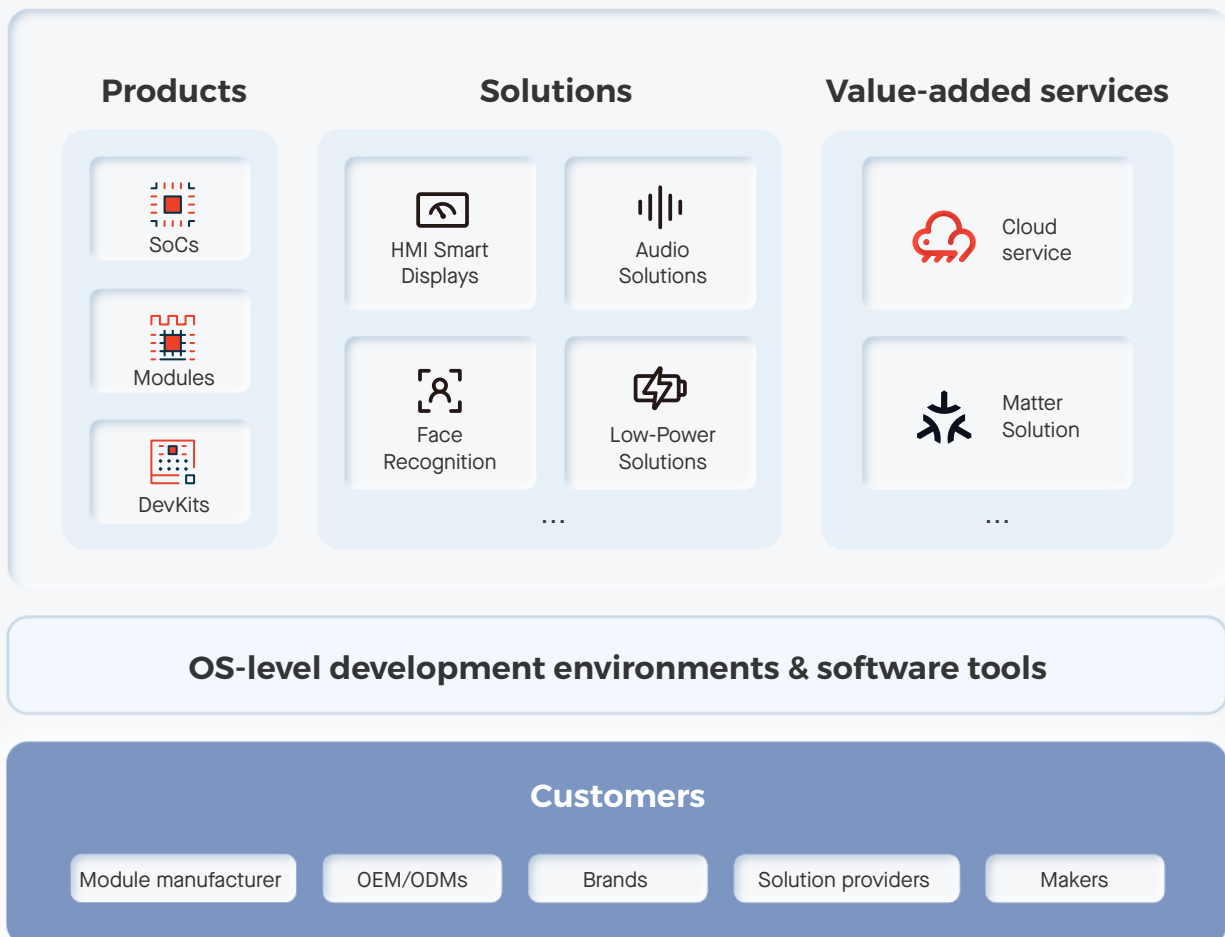


Management Report

Business Strategy

Espressif Systems' business strategy emanates from our service/product areas and our engagement with the developer ecosystem.

Our product and service areas include hardwares, OS-level development environments, software tools, application solutions, and value-added services, such as Cloud and Matter. The above-mentioned products ensure that we are in the heart of numerous commercial AIoT applications in different markets, including smart home, consumer electronics, industrial automation, healthcare, etc.

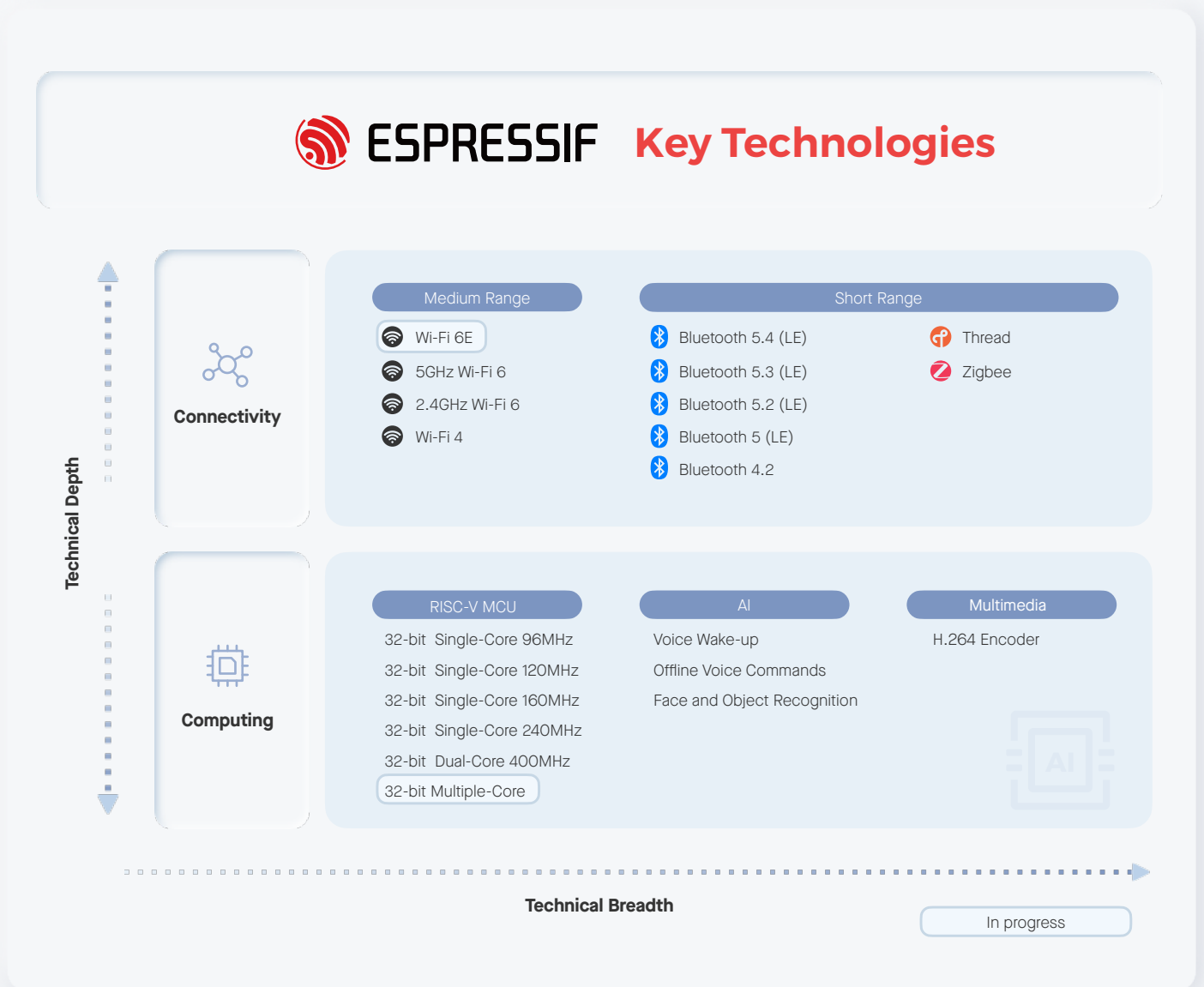


Key Products - AIoT Chips

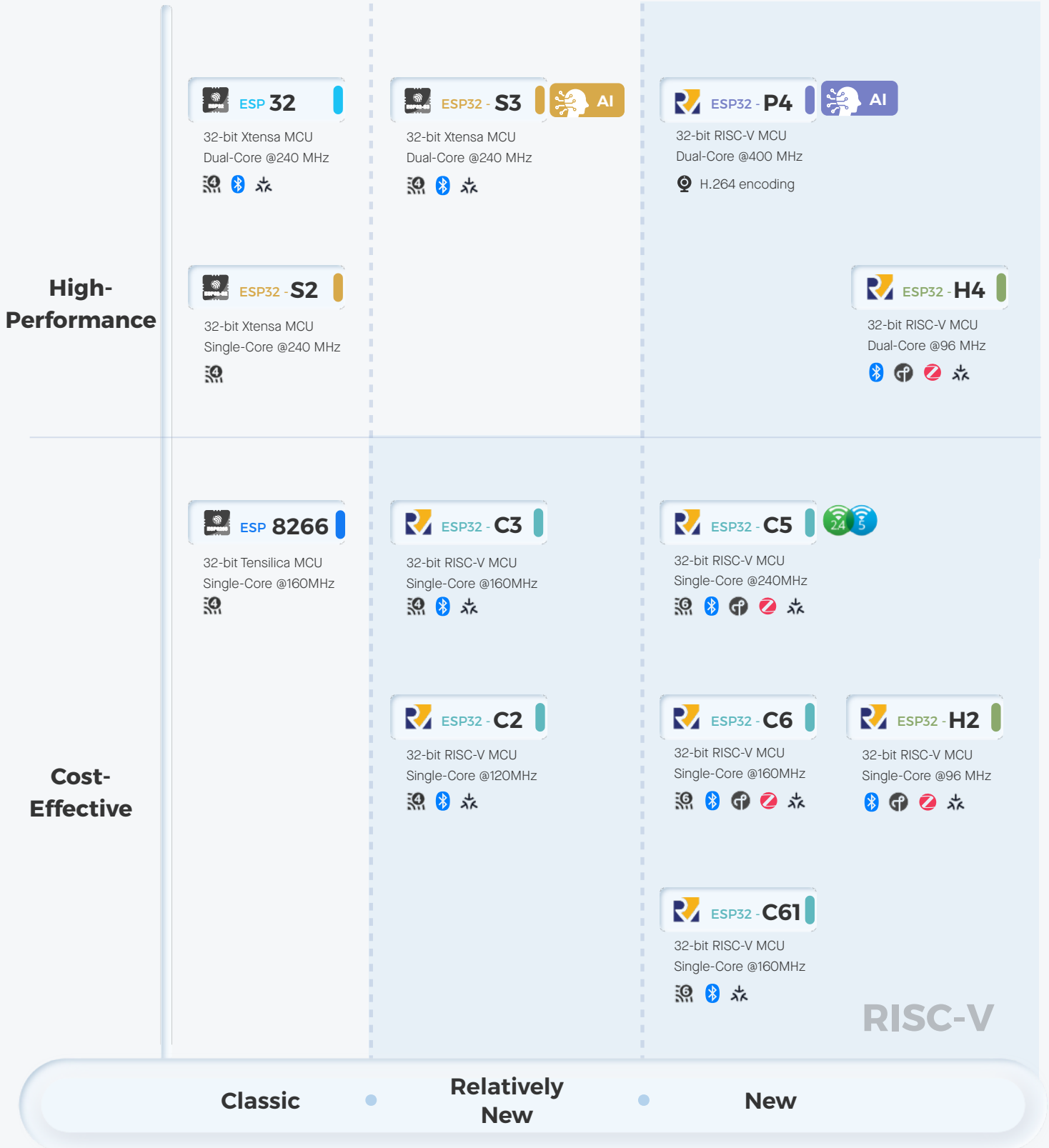
Espressif is recognized as a market leader in the field of Wi-Fi MCUs. We released our first Wi-Fi MCU in 2014, and our first Wi-Fi/Bluetooth LE combo chip in 2016. In 2020, we successfully developed our own RISC-V MCU core, adding it to our product portfolio, while in 2021, we released our first Thread/Zigbee/Bluetooth LE 5 combo chip and a 2.4GHz Wi-Fi 6 chip. In 2022, we released our first 2.4 & 5GHz Wi-Fi 6 chip. In 2023, we revealed ESP32-P4, a dual-core RISC-V MCU, expanding the current portfolio to address the high-performance computation needs of IO-Rich, HMI, and AIoT applications. In 2024, we announced ESP32-H4, a low-power SoC with 802.15.4 & Bluetooth 5.4 (LE), which caters to increasing demands for low-power wireless devices, boasting significant upgrades in power consumption, connectivity features, and memory expansion capabilities.

In fact, we have been constantly diversifying our product portfolio, introducing new solutions through our numerous investments. Thus, we now have various product lines in the main short- and medium-range connectivity technologies and our product range has expanded to AIoT SoCs. Our core technologies are self-developed, including connectivity IPs, RF components, RISC-V IPs, software frameworks, tools, AI functions etc.

We also provide IoT modules based on our chips. The benefit for customers is that they can get direct support from us, shortening and optimizing their supply chain, even in case of chip shortages.



Key Products - Chip Matrix



RISC-V

Key Products - M5Stack Development Kits

Espressif acquired a majority stake in M5Stack in 2024 Q2. M5Stack is renowned for its innovative approach to hardware development and offers a modular, open-source platform that simplifies the creation of IoT and embedded system solutions, greatly enhancing deployment efficiency. The M5Stack ecosystem is built around its flagship main control module, powered by Espressif’s all ESP32 series of chips, highlighting the deep technical synergy between the two companies.

M5Stack’s product portfolio primarily comprises controllers and other hardware modules needed in IoT application solutions and is mainly sold to the industrial, education, and developer markets.

M5Stack maintains an impressive pace of launching one new hardware product every week. A diversified product portfolio with approximately 300 SKUs helps developers rapidly prototype end products, accelerating the design-in process for Espressif’s products with end customers. This ultimately brings more business opportunities for Espressif’s chips and modules.

Controller



Voltage & Amperage Meter



Air Quality Kit



Cardputer



Rotary Knob

...

Camera

Sensor

Module

Kits



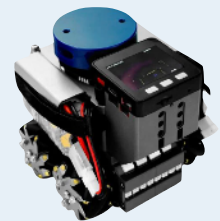
PoE Camera



Weight I2C Unit



Lora Unit











Lidar Bot

...

Market

The market for wireless SoCs is truly diverse, including applications for smart homes (e.g., smart lights, air conditioners, ovens, coffee machines, etc.), consumer electronics (e.g., smart speakers, drones, etc.), industrial automation (e.g., mechanical arms), smart agriculture (e.g., soil PH detector, CO2 detector, etc.), healthcare (e.g., monitoring devices for diabetes, blood pressure, etc.), energy control (solar energy devices, EV chargers, etc.), the internet of vehicles (OBD devices, dashboards, etc.), and education (talking pens, interactive whiteboards, etc.).

We seem to be witnessing an economic recovery, with both new and existing customers showing growth in business. At the same time, we have also seen the emergence of applications in new areas, such as beauty devices. After experiencing the low point of 2023, clients in the new energy sector have also begun to show signs of recovery.

<p>Smart Home</p>  <p>Smart Ovens</p>	<p>Consumer Electronics</p>  <p>Smart Speakers</p>	<p>Industrial Automation</p>  <p>Mechanical Arms</p>	<p>Smart Agriculture</p>  <p>Soil PH Detector</p>
<p>Healthcare</p>  <p>Medical Detectors</p>	<p>Energy Management</p>  <p>Smart Solar Panels</p>	<p>Internet of Vehicles</p>  <p>Intelligent instrument panel</p>	<p>Education</p>  <p>Talking Pens</p>

Business Model

Business-to-**Developer**-to-Business (B2D2B)

Espressif has deployed the Business-to-Developer type of marketing, not only because it has gained prominence in recent years, but also because it has proven to be more effective since the influence of developers on organizations of all sizes has gained traction. In other words, most developers are R&D employees in various companies and bring forth business opportunities from the companies they work for.

This way, the developer ecosystem we have created at Espressif demonstrates how the value of networks can grow exponentially:

- The more developers we attract as customers, the more hardware and software solutions we generate.
- The more successful hardware and software solutions we create, the more our reputation spreads with positive feedback from happy customers/developers.
- The above-mentioned interaction between people in our network prompts the creation of more content, which -in turn- attracts more users/developers searching for new content.
- Likewise, other third-party development platforms join our ecosystem and bring in new developers, as our influence continues to grow.

Having successfully applied the B2D2B model, Espressif can now focus on R&D investments, while maintaining a small business team that supports a large number of customers directly. In fact, most of our revenue is gained through direct sales.



Developer Community Content



Global Code Hosting Platform

115,500

ESP32 and ESP8266 Projects



Global Video Sharing Platform

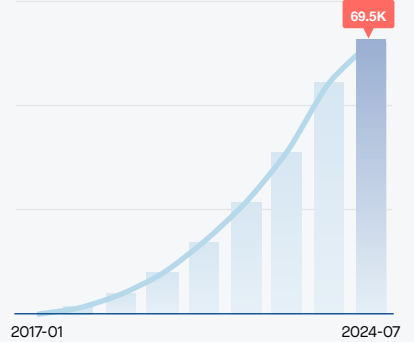
21,400

Espressif Followers

4,317 K

Views of the Most Popular ESP32 Video

Cumulative Number of GitHub ESP32 Projects



Chinese Code Hosting Platform

11,845

ESP32 and ESP8266 Projects



Chinese Video Sharing Platform

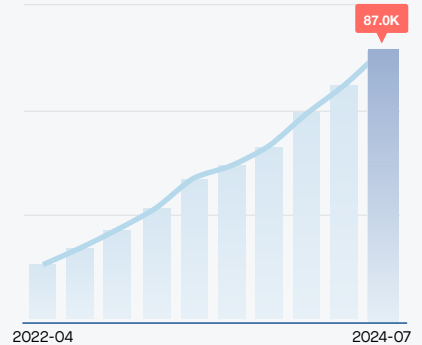
34,611

Espressif Followers

1,374 K

Views of the Most Popular ESP32 Video

Number of Reddit ESP32 Group Members



Social Networking Site

87,000

ESP32 Group Members



Social Networking Platform

14,340

Espressif Followers

28,733

M5Stack Followers

New Discussions Around the Clock



Posted on 10 Jul 2024

"MicroPython: Python para programar microcontroladores y sistemas embebidos"

A lo largo de este curso aprenderemos a programar aplicaciones en plataformas como m5Stack y ESP32. Curso tutorizado y online en el Campus Tecnológico #Formación #MicroPython



https://twitter.com/arduino_zero/status/1810736626588410204



Posted on 10 Jul 2024

ESP32S3+LVGL+GUI Guider进行UI图形设计全过程教学|智能手表|桌面时钟|DIY



<https://b23.tv/hCKk188>



Posted on 10 Jul 2024

How to do Object Detection using ESP32-CAM and Edge Impulse YOLO Model

So here is my latest tutorial on how to use the ESP32CAM for object recognition. I have earlier built something similar with ...



<https://www.reddit.com/r/esp32/comments/1dzruxz/comment/1chld04/>



Posted on 10 Jul 2024

Lập trình ESP32 - Bài 7 - Cách sử dụng Blynk IOT trên ESP32 để truyền nhận dữ liệu

Hướng dẫn cách sử dụng Blynk IOT trên ESP32 để truyền nhận dữ liệu khi làm thiết bị IOT.

https://www.youtube.com/watch?v=VK3N7_Hjsu4



Posted on 10 Jul 2024

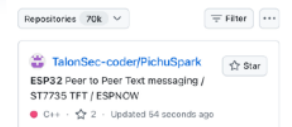
ESP32-ADF with MAX98357A using platformio



Posted on 10 Jul 2024



Posted on 10 Jul 2024



Books about ESP Products

More than 200 books on how to use ESP products can be found in the developer community and cover over a dozen languages.



Research and Development

R&D Investment

R&D investment is at the heart of Espressif Systems’ development. During the reporting period, R&D cost CNY 218.68 million, which marked a 22.73% increase compared with that of 2023. At the same time, the R&D-to-sales ratio was 23.76% in the first half of this fiscal year (2024).

Espressif’s escalating R&D investment cost can be attributed to the increase in the number of R&D staff and their subsequent compensation level, which increased significantly year-over-year.

CNY	Six Months Ended		change (%)
	June 30, 2024	June 30, 2023	
R&D Expenses	218,682,370	178,184,574	22.73
R&D-to-sales ratio	23.76%	26.71%	

Intellectual Property

We seek to protect our technologies through a combination of patents, software copyright and trade secrets. By June 30, 2024, the Company had been granted 195 patents. We continue to submit new patent applications relating to our recent R&D innovations.



List of Intellectual Property Rights Applied and Granted

	H1 2024		Cumulative number	
	Applied for	Granted	Applied for	Granted
Invention patents	1	6	135	95
Utility model patents	2	4	33	31
Design patents	0	0	11	11
Software copyright	3	3	26	26
Others	5	4	68	32
Total	11	17	273	195

N.B.: The number of patents that have been “applied for” does not include the rejected applications in China, or the PCT patent applications not submitted to any particular country, or any patent applications beyond the reporting period. The number of “granted” patents includes those with expired IP rights. The category of “others” includes overseas (non-Chinese) patent applications, i.e. the PCT patent applications, U.S. patent applications through the PCT route or the Paris Convention route, as well as patent applications in India.

R&D Employees

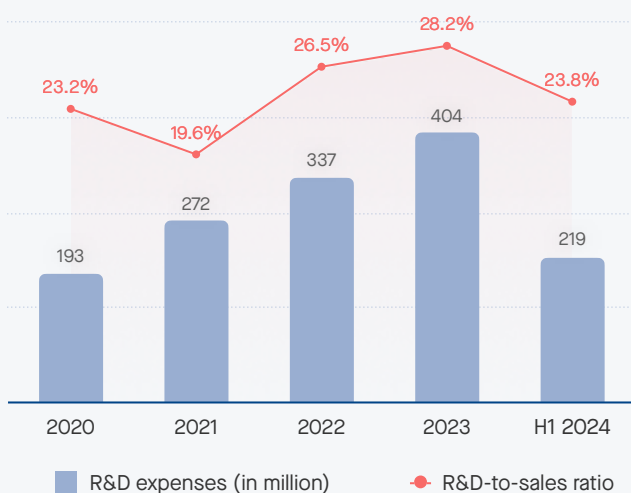
We are proud of our talented, diverse and multicultural workforce. By June 30, 2024, across our nine branches in five countries, including China, India, the Czech Republic, Brazil and Singapore, we had employed 728 people, more than 71% of whom are in engineering roles. Meanwhile, we have expanded our business beyond Wi-Fi MCUs, thus offering innovative solutions to wireless connectivity and processing, including RF, RISC-V MCU, Wi-Fi 6, Bluetooth LE, Thread, Zigbee, Matter, AI and other IoT-related technologies.

Since the research and development of software and hardware are inextricably intertwined, we constantly invest in software technology, too. Hence, we are currently focused on AIoT technologies, including toolchains, compilers, operating systems, application frameworks, AI algorithms, Cloud, APPs, etc. Our aim is to make Espressif a one-stop solution-provider offering anything relating to AIoT.

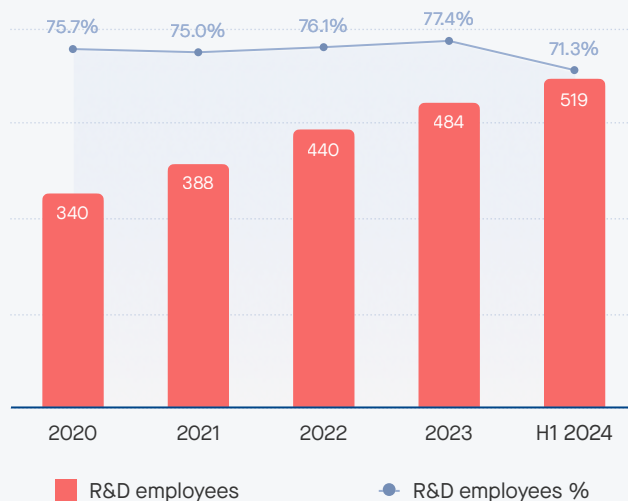
Six Months Ended

	June 30, 2024	June 30, 2023
R&D employees	519	455
R&D employees as a percentage of total employees	71.29%	76.99%
Total compensation of R&D employees (CNY in thousands)	169,820	135,244
Average compensation of R&D employees (CNY in thousands)	339	302

R&D Expenses



R&D Employees



Ownership of Securities

Basic information of securities

Share types	Ordinary share
Share capital	112,188,505 (as of June 30, 2024)
Listing	Shanghai Stock Exchange (SSE)
Ticker	688018.SH
Listing Date	2019-07-22

Shareholder Structure as of June 30, 2024

Shareholder	Share Numbers	Percentage (%)
Espressif (Hong Kong) Investment Ltd.	46,266,142	41.24
Shinvest Holding Ltd.	3,116,651	2.78
Hong Kong Securities Clearing Company Limited	2,544,925	2.27
Wisdomshire Asset Management Co., Ltd. - Wisdomshire Youfu Private Equity Securities Investment Fund No.1	1,641,024	1.46
Ningbo Meishan Free Trade Port Le Tun Investment Management Partnership (Limited Partnership)	1,464,442	1.31
Wisdomshire Asset Management Co., Ltd. - Wisdomshire Youfu Private Equity Securities Investment Fund No.3	1,333,688	1.19
ROBINA WOOD	1,097,040	0.98
SPD - Debang Semiconductor Industry Hybrid Initiated Securities Investment Fund	923,251	0.82
ICBC-AXA LIFE - Long-term Dividend Product	880,531	0.78
GTJA Futures - Guolian An CSI Semiconductor Products and Equipment Tradable Open-ended Index Securities Investment Fund	808,544	0.72
Top 10 shareholders	60,076,238	53.55
Espressif Systems (Shanghai) Co., Ltd. Repurchase Special Securities Account	2,299,148	2.05
Other public shareholders	52,112,267	46.45
Total of outstanding shares	112,188,505	100.00

Stock-Based Compensation

Espressif has eight ongoing restricted stock incentive plans. The fair value of the restricted stock incentive plans is calculated by using the Black-Scholes model. The following table presents details of stock-based compensation costs acknowledged in the Consolidated Statements of Income.

Restricted Stock Incentive Plans

Plan	Award Type	Number of Underlying Shares	Ratio of Underlying Shares (%)	Grant Price (CNY)
2019 restricted stock incentive plan	Class II restricted stock	199,620	0.1779	43.59
2020 restricted stock incentive plan	Class II restricted stock	140,598	0.1253	65.02
2021 restricted stock incentive plan	Class II restricted stock	749,228	0.6678	65.64
2022 restricted stock incentive plan	Class II restricted stock	819,109	0.7301	83.86
2023 I restricted stock incentive plan	Class II restricted stock	87,466	0.0780	42.14
2023 II restricted stock incentive plan	Class II restricted stock	764,536	0.6815	27.86
2023 III restricted stock incentive plan	Class II restricted stock	94,410	0.0842	45.36
2024 restricted stock incentive plan	Class II restricted stock	1,177,960	1.0500	35.00

N.B.:

The above-mentioned numbers were calculated on June 30, 2024.

The grant price has been adjusted due to cash dividend distribution and capitalization of reserves.

Stock-Based Compensation

CNY	Six Months Ended	
	Jun 30, 2024	Jun 30, 2023
Selling expenses	663,608	591,697
G&A expenses	591,327	535,743
R&D expenses	14,076,255	11,140,129
Total stock-based compensation	15,331,190	12,267,568

Risks and Uncertainties



Financial Risk

The Company performs periodic credit evaluations of its customers' financial condition and generally requires of its customers no collateral. 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 in this report.



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, such as Silicon Labs and Nordic, may reduce our product sales and market share.



Suppliers

A significant portion of the Company's products is fabricated by the Taiwan Semiconductor Manufacturing Company Limited (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 certain 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 24.96% in H1 2024.

Consolidated Financial Statements (Unaudited)

Consolidated Balance Sheet (Unaudited)

CNY	June 30, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	488,346,387	464,011,234
Held for trading financial assets		90,315,219
Notes receivable	24,802,567	42,082,006
Accounts receivable, net	313,074,690	251,641,263
Accounts receivable financing		
Prepayments	59,807,428	9,802,407
Other receivables	11,784,979	9,157,910
Including: Interest receivable		
Inventories	376,292,586	242,352,587
Other current assets	90,800,518	106,338,922
Total current assets	1,364,909,155	1,215,701,548
Non-current assets:		
Debt investment	576,383,600	753,024,500
Investment in other equity assets	30,967,840	36,079,840
Other non-current financial assets	34,879,347	34,879,347
Fixed assets	86,385,163	76,401,004
Right-of-use assets	18,988,095	15,937,207
Intangible assets	28,241,890	1,633,298
Goodwill	75,619,024	
Long-term deferred expenses	15,050,416	9,337,814
Deferred income tax assets	90,465,300	60,805,808
Total assets	2,321,889,830	2,203,800,366

Goodwill is primarily attributable to the assembled workforce and anticipated synergies and other strategic benefits expected from integrating [M5Stack](#).

Consolidated Balance Sheet (Unaudited)

CNY	June 30, 2024	December 31, 2023
Liabilities & Shareholders' Equity		
Current liabilities:		
Accounts payable	116,385,599	79,841,809
Contract liabilities	28,101,110	13,318,710
Payroll payable	71,516,379	102,238,914
Taxes payable	679,050	615,415
Other payable	32,807,194	11,525,208
Non-current liabilities due within one year	12,336,316	8,591,447
Other current liabilities	1,508,097	501,689
Total current liabilities	263,333,745	216,633,192
Non-current liabilities:		
Lease liabilities	7,308,057	8,454,747
Provisions	615,637	627,089
Deferred income tax liabilities	87,976,194	65,085,110
Total liabilities	359,233,632	290,800,138
Owners' equity (or shareholders' equity):		
Share capital	112,188,505	80,789,724
Capital reserves	1,330,894,926	1,358,508,382
Less: Treasury stock	213,248,731	146,969,563
Other comprehensive income	20,989,090	24,067,306
Surplus reserves	55,460,195	55,460,195
Retained earnings	626,316,607	541,144,184
Total Espressif shareholders' equity	1,932,600,591	1,913,000,228
Non-controlling interests	30,055,607	
Total equity	1,962,656,198	1,913,000,228
Total liabilities and equity	2,321,889,830	2,203,800,366

Consolidated Income Statement (Unaudited)

CNY	Three Months Ended		Six Months Ended	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
Revenue	533,020,855	348,880,535	920,212,266	666,997,977
Cost of Revenue	297,891,612	205,943,925	522,715,482	394,543,321
Gross Profit	235,129,242	142,936,609	397,496,784	272,454,655
Taxes and surcharges	409,396	1,528,087	866,924	3,314,588
Selling expenses	16,063,290	13,351,348	28,915,851	25,524,250
General and administrative expenses	17,125,846	15,031,928	31,997,654	28,946,961
Research and development expenses	114,836,190	92,701,560	218,682,370	178,184,574
Financial expenses	1,492,903	-310,276	-408,615	-3,959,365
Including: Interest expenses	205,800	242,706	443,113	506,822
Interest income	3,309,886	2,636,628	7,173,410	4,650,650
Add: Other income	4,948,006	187,759	18,164,613	577,635
Investment income (mark "-" for loss)	5,327,726	5,228,869	11,636,081	11,487,416
Income from changes in fair value (mark "-" for loss)	-71,822	164,550		172,379
Credit impairment losses (mark "-" for loss)	-50,844		-50,844	
Assets impairment losses (mark "-" for loss)	43,693	-1,722,667	-209,761	-2,660,838
Assets disposal income (mark "-" for loss)	-506	-349	-558	4,390
Operating Income	95,397,871	24,492,125	146,982,131	50,024,629
Add: Non-operating revenue	1,589	164,572	1,589	164,572
Less: Non-operating expenses	4,673,633	3,071	4,699,729	5,536
Income before income taxes	90,725,827	24,653,626	142,283,991	50,183,665
Provision (benefit) for income taxes	-8,071,760	-8,829,288	-10,429,078	-14,386,678
Net Income	98,797,587	33,482,914	152,713,070	64,570,344
Net Income attributable to non-controlling interests	1,070,606		1,070,606	
Net Income attributable to Espressif	97,726,982	33,482,914	151,642,464	64,570,344
Earnings per share				
Basic			1.8116	0.8059
Diluted			1.8116	0.8059
CNY	Three Months Ended		Six Months Ended	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
Net Income	98,797,587	33,482,914	152,713,070	64,570,344
Other comprehensive income (loss), after tax				
Changes to the fair value of investment in other equity instruments	9,486,000		9,486,000	
Currency translation reserves	1,279,812	19,755,010	-773,016	14,486,498
Other comprehensive income (loss)	10,765,812	19,755,010	8,712,984	14,486,498
Other comprehensive income (loss) attributable to non-controlling interests				
Comprehensive income	109,563,399	53,237,924	161,426,053	79,056,842
Comprehensive income attributable to non-controlling interests	1,070,606		1,070,606	
Comprehensive income attributable to Espressif	108,492,793	53,237,924	160,355,448	79,056,842

Consolidated Cash Flow Statement (Unaudited)

CNY	Three Months Ended		Six Months Ended	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
Operating Activities				
Cash from sales of merchandise and provision of services	539,670,869	351,729,950	979,986,644	668,675,823
Tax refund	14,348,735	11,113,912	22,039,088	33,504,703
Other received cash related to operational activities	5,459,397	4,349,276	13,066,919	10,494,111
Subtotal of cash inflow from operational activities	559,479,001	367,193,138	1,015,092,651	712,674,636
Cash paid for merchandise and services	457,075,056	177,404,495	744,342,308	322,438,347
Cash paid to and for employees	80,517,004	74,283,588	235,965,098	208,755,881
Cash paid for taxes and surcharges	6,081,313	22,795,807	7,382,465	36,251,089
Other paid cash related to operational activities	29,473,800	26,303,049	53,079,614	45,529,677
Subtotal of cash outflow from operational activities	573,147,173	300,786,939	1,040,769,485	612,974,994
Net cash provided by operating activities	-13,668,172	66,406,199	-25,676,834	99,699,642
Investing activities				
Cash arising from the disposal of investments	185,297,048	465,055,370	455,877,171	1,282,789,551
Cash arising from investment income	3,450,779	2,075,281	4,235,229	3,829,647
Net cash arising from the disposal of fixed assets, intangible assets and other long-term assets	2,210	1,400	9,664	19,250
Other received cash relating to investment activities	1,213,000	1,342,000	1,739,000	1,653,000
Subtotal of cash inflow from investment activities	189,963,036	468,474,051	461,861,063	1,288,291,448
Cash paid for the purchase and construction of fixed assets, intangible assets and other long-term assets	16,924,485	10,053,768	25,200,081	24,779,027
Cash paid for investments	102,175,231	488,000,000	222,175,231	1,351,000,000
Other paid cash relating to investment activities	600,000	300,000	1,600,000	600,000
Subtotal of cash outflow from investment activities	119,699,716	498,353,768	248,975,311	1,376,379,027
Net cash provided by investment activities	70,263,321	-29,879,716	212,885,752	-88,087,579
Financing activities				
Cash arising from the issuance of common stock	10,949,956	23,229,130	10,949,956	23,957,017
Including: Cash arising from subsidiaries absorbing investments by minority shareholders				
Subtotal of cash inflow from financing activities	10,949,956	23,229,130	10,949,956	23,957,017
Cash paid for the distribution of dividends and profits, or payment of interests	78,261,241		78,261,241	
Including: dividends and profits paid to minority shareholders by subsidiaries				
Other paid cash relating to financing activities	3,716,887	3,732,556	96,838,779	7,064,234
Subtotal of cash outflow from financing activities	81,978,128	3,732,556	175,100,020	7,064,234
Net cash provided by financing activities	-71,028,172	19,496,574	-164,150,064	16,892,783
Impact of fluctuation in exchange rates on cash and cash equivalents	-8,037,252	10,632,571	-13,753,458	12,103,780
Net increase in cash and cash equivalents	-22,470,275	66,655,628	9,305,396	40,608,625
Add: Cash and cash equivalent at the commencement of the period	506,706,793	324,630,351	474,931,121	350,677,354
Cash and cash equivalents at the end of the period	484,236,518	391,285,979	484,236,518	391,285,979

Consolidated Cash Flow Statement

- Indirect Method (Unaudited)

CNY	Three Months Ended		Six Months Ended	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
Additional information				
Net income	98,797,587	33,482,914	152,713,070	64,570,344
Adjustments to cash provided by operating activities, for the purpose of reconciling net income:				
Add: provision for the impairment of assets	-43,693	1,722,667	209,761	2,660,838
Credit impairment provision	50,844		50,844	
Depreciation of fixed assets	5,543,158	4,656,412	10,922,933	9,015,054
Depreciation of right-of-use assets	3,226,029	3,132,043	6,455,716	6,191,678
Amortization of intangible assets	397,071	194,755	591,825	389,509
Amortization of long-term prepaid expenses	1,589,624	1,115,525	2,942,916	2,131,486
Losses on disposal of fixed assets, intangible assets and other long-term assets (mark "-" for income)	506	349	558	-4,390
Losses on scrapping of fixed assets (mark "-" for income)	4,656,083		4,656,083	
Losses on fair value changes (mark "-" for income)	71,822	-164,550		-172,379
Financial expenses (mark "-" for income)	4,623,920	2,207,636	6,450,037	438,044
Losses on investment (mark "-" for income)	-5,327,726	-5,228,869	-11,636,081	-11,487,416
Decrease on deferred income tax assets (mark "-" for increase)	-14,329,853	-5,210,646	-29,671,227	-19,268,821
Increase on deferred income tax liabilities (mark "-" for decrease)	13,220,613	-1,192,035	23,297,884	4,092,185
Changes in operating assets and liabilities:				
Decrease in inventories (mark "-" for increase)	-68,083,650	43,849,565	-109,637,148	104,188,797
Decrease in operational receivables (mark "-" for increase)	-151,075,340	-49,397,224	-141,299,427	-72,586,295
Increase in operational payables (mark "-" for decrease)	84,085,072	27,594,458	42,944,232	-2,726,559
Others	8,929,762	9,643,201	15,331,190	12,267,568
Net cash flow provided by operating activities	-13,668,172	66,406,199	-25,676,834	99,699,642

Consolidated Statement of Changes in Equity

(Unaudited)

Equity attributable to Espressif

CNY	Share capital	Capital reserves	Less: Treasury stock	Other comprehensive income	Surplus reserves	Retained earnings	Total Espressif Equity	Non-controlling Interests	Total equity
Balance as of December 31, 2022	80,484,430	1,309,813,001	40,966,012	16,946,374	46,570,910	413,828,832	1,826,677,535		1,826,677,535
Comprehensive income				14,486,498		64,570,344	79,056,842		79,056,842
Capital increase	246,777	31,856,474					32,103,251		32,103,251
Stock-based compensation		4,121,334					4,121,334		4,121,334
Surplus reserves									
Dividends									
Balance as of June 30, 2023	80,731,207	1,345,790,809	40,966,012	31,432,873	46,570,910	478,399,175	1,941,958,962		1,941,958,962

Equity attributable to Espressif

CNY	Share capital	Capital reserves	Less: Treasury stock	Other comprehensive income	Surplus reserves	Retained earnings	Total Espressif Equity	Non-controlling Interests	Total equity
Balance as of December 31, 2023	80,789,724	1,358,508,382	146,969,563	24,067,306	55,460,195	541,144,184	1,913,000,228		1,913,000,228
Comprehensive income				8,712,984		151,642,464	160,355,448	1,070,606	161,426,053
Capital increase	31,398,781	-14,689,138	-22,495,821				39,205,464		39,205,464
Repurchase			88,774,989				-88,774,989		-88,774,989
Stock-based compensation		-12,924,318					-12,924,318		-12,924,318
Surplus reserves									
Subsidiary Acquisition				-11,791,200		11,791,200		28,985,002	28,985,002
Dividends						-78,261,241	-78,261,241		-78,261,241
Balance as of June 30, 2024	112,188,505	1,330,894,926	213,248,731	20,989,090	55,460,195	626,316,607	1,932,600,591	30,055,607	1,962,656,198

Further Information

Terms and Conditions of the Report

Responsibility Statement

The Board of Directors, the Board of Supervisors and the 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 July 2024
Espressif Systems

Board of Directors

Teo Swee Ann

Founder and Chairman

Ng Pei Chi

Information Technology Officer

Wang Jue

Deputy General Manager

Teo Teck Leong

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.
G&A	General and Administrative
GM	Gross Margin
HMI	Human-Machine Interaction
IC	Integrated Circuit
IoT	Internet of Things
MCU	Microcontroller Unit
OBD	On-Board Diagnostics
R&D	Research and Development
RF	Radio Frequency
RISC-V	Reduced Instruction Set Computer-V
ROE	Return on Earnings
RTOS	Real-Time Operating System
SG&A	Selling, General and Administrative
SH	Shanghai
SoCs	System on Chips
YoY	Year-on-Year

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All amounts presented in these condensed Consolidated Financial Statements are shown in CNY unless stated otherwise. Slight discrepancies between the amounts presented may occur due to rounding.