EXCLUSIVE

Samsung, SK Hynix upgrading China plants to make more advanced chips, people say

据称，三星与 SK 海力士正在升级中国工厂，以生产更先进的芯片。

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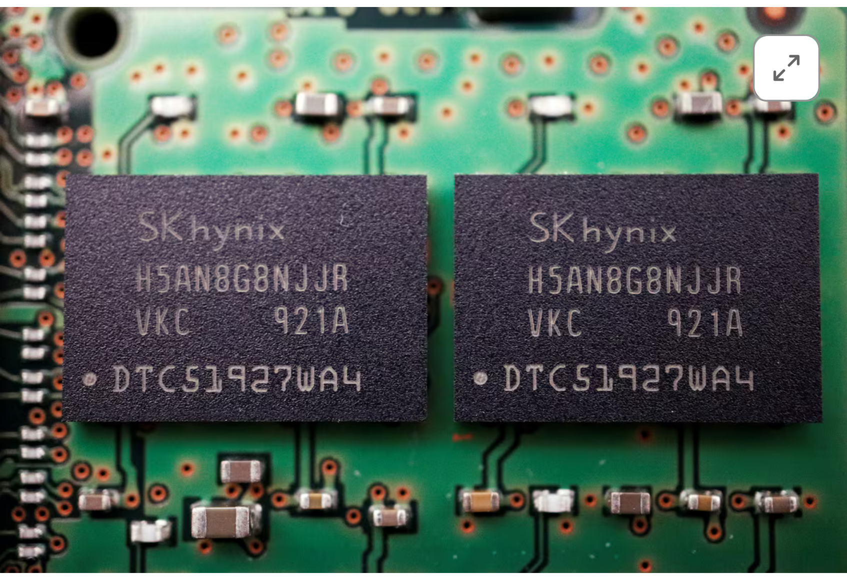

[1/3] Memory chips by South Korean semiconductor supplier SK Hynix are seen on a circuit board of a computer in this illustration picture taken February 25, 2022. REUTERS/Florence Lo/Illustration Purchase Licensing Rights

[1/3] 这张拍摄于 2022 年 2 月 25 日的图片显示的是计算机电路板上的内存芯片，这些芯片由韩国半导体制造商 SK 海力士生产。图片来源：REUTERS/Florence Lo/插图，已获得使用许可。

Summary Companies

- Samsung aiming for Xian plant to switch to 286-layer flash-memory chips by 2027, person says

  据相关人员透露，三星计划在 2027 年前让其西安工厂开始生产 286 层结构的闪存芯片。
- SK Hynix wants to make chips with 240 or more layers at Dalian operations, people say

  据称，SK 海力士打算在其大连工厂生产具有 240 层或更多层的芯片。
- SK Hynix may seek US approval to do R&D on more advanced tech at Dalian, person says

  据人士透露，SK 海力士可能会寻求美国方面的批准，以便在大连开展更先进技术的研发工作。

SEOUL/BEIJING/NEW YORK, Oct 21 (Reuters) - Samsung Electronics (005930.KS) and SK Hynix (000660.KS) are upgrading their China factories to produce more advanced memory chips, four people familiar with the plans said, aiming to fend off competition from a fast-growing Chinese rival and meet huge AI demand.

首尔/北京/纽约，10 月 21 日（路透社）——据四位了解相关计划的人士透露，三星电子（005930.KS）和 SK 海力士（000660.KS）正在升级其中国工厂，以便生产更先进的存储芯片。此举旨在应对中国竞争对手的日益强劲的竞争压力，同时满足人工智能领域巨大的需求。

How much to invest in their Chinese operations has become a tricky question for the South Korean semiconductor giants ever since the US began imposing export controls on some chip-making equipment in 2022 amid an effort to slow China's technological progress.

自 2022 年美国为遏制中国的技术发展而开始对某些芯片制造设备实施出口管制以来，韩国的半导体巨头们该如何为在中国的业务投入资金，便成了一个棘手的问题。

Both companies are now required to seek US licenses annually if they want to install US-made equipment such as etching machines in China. The US Commerce Department's Bureau of Industry and Security also said in 2025 it did not intend to grant licenses to upgrade technology and expand capacity at the foreign chipmakers' factories in China.

现在，这两家公司若想在中国使用美国制造的蚀刻机等设备，就必须每年申请美国的许可。美国商务部工业与安全局还表示，2025 年不会批准这些外国芯片制造商在中国境内的工厂进行技术升级或扩大产能的许可申请。

The regulatory headaches have limited their ability to refit their factories and contributed to loss of market share to Yangtze Memory Technologies Co (YMTC). Executives at the South Korean chipmakers have publicly warned that geopolitical tensions are undermining their Chinese operations.

各种监管限制使得他们难以对工厂进行改造，这也导致了他们的市场份额被长江存储科技股份公司夺走。这家韩国芯片制造商的高管们公开表示，地缘政治紧张局势正在损害他们在中国的业务。

Samsung confirmed in a statement to Reuters that upgrades were underway and were being done in close consultation with Washington. SK Hynix said it has been installing equipment at its Dalian factory in northeastern China, in consultation with the US government. Neither firm disclosed details of production plans that are being reported here for the first time.

三星在回复路透社的声明中确认，升级工作正在进行中，且是在与华盛顿方面密切协商后实施的。SK 海力士则表示，它也在中国东北部的大连工厂安装设备，这一过程同样是与美国政府协商后进行的。两家公司均未透露相关的生产计划细节，而这些细节则是首次被公开披露的。

Reuters could not, however, determine to what extent US authorities have granted export licences for equipment that Samsung and SK Hynix need for their planned upgrades.

不过，路透社无法确定美国当局在多大程度上批准了三星和 SK 海力士为进行计划中的升级而所需的设备出口许可。

知识星球：调研纪要更新

According to the people, the two companies are working to manufacture flash NAND memory chips with more than 200 layers at their Chinese plants, whose products are currently not as advanced as chips being produced in South Korea.

据相关人士透露，这两家公司在中国的工厂里致力于生产层数超过 200 层的闪存 NAND 芯片，不过目前这些芯片的先进程度还不及在韩国生产的芯片。

NAND, a type of memory chip that retains data without power, is widely used in smartphones, PCs and solid-state drives for AI data centres. More layers per chip means more storage density and lower costs.

NAND 是一种无需电源即可保存数据的存储芯片，被广泛用于智能手机、个人电脑以及用于人工智能数据中心的固态硬盘中。芯片的层数越多，存储密度就越高，成本则越低。

Shares in Samsung and SK Hynix both ended 6% higher on Wednesday after publication of this article.

在这篇文章发表后，三星和 SK 海力士的股价均在周三上涨了 6%。

SAMSUNG SETS SIGHTS ON 286-LAYER CHIPS

三星瞄准 286 层芯片技术

Samsung's plant in Xian in northwestern China, which accounts for about 40% of the company's global NAND output, currently makes chips that have about 200 layers, according to two of the people.

据两位知情人士透露，三星位于中国西北部西安的工厂为该公司全球 NAND 闪存产量的 40%左右。目前，该工厂生产的芯片层数约为 200 层。

As part of a project known internally as "Monami" — from the French for "my friend" — Samsung is converting the facility to make 286-layer V9 NAND chips, aiming for monthly output of 5,000 wafers in December this year and then a jump to 40,000 wafers by December 2027, one of the people said.

据该人士透露，作为内部代号为“Monami”的项目的一部分——“Monami”在法语中意为“我的朋友”——三星正在改造这座工厂，以便生产 286 层结构的 V9 NAND 芯片。目标是在今年 12 月时实现每月生产 5,000 片晶圆，而到

2027 年 12 月则将这一产量提升至 40,000 片晶圆/月。

Samsung said its upgrade was in compliance with US export regulations, adding: "The upgrade is aimed at meeting growing demand from global customers, including those in the US. The company is not expanding production capacity or constructing new manufacturing facilities."

三星表示，此次升级符合美国的出口法规。该公司还称：“进行此次升级是为了满足包括美国客户在内的全球客户的日益增长的需求。公司并未扩大生产规模，也没有建造新的制造设施。”

SK Hynix is looking to switch to producing NAND products with 240 layers or more at its Dalian facilities, three people familiar with the matter said.

据三位知情人士透露，SK 海力士计划在其大连工厂开始生产层数达到 240 层或更高的 NAND 产品。

It currently makes products with 192 layers there, one person said.

有位人士表示，目前那里生产的是 192 层的产品。

SK Hynix acquired the Dalian site when it bought Intel's NAND operations in 2021 and it remains the sole NAND chip manufacturing site for that business. Now named Solidigm, it is preparing for a US initial public offering, Reuters reported last month.

2021 年，SK 海力士在收购英特尔的 NAND 业务时也买下了大连的工厂，该工厂至今仍是该公司生产 NAND 芯片的唯一基地。据路透社上个月的报道，这家现已更名為 Solidigm 的公司正准备在美国上市。

One of the people said the company is authorised to make chips with up to 240 layers at Dalian and may seek permission from Washington to conduct research and development on 300-plus-layer chips there that would help it lay the groundwork for potential production in the US. The company is in discussions with the Trump administration over plans to build a new NAND factory in the United States.

有消息人士称，该公司已获得在大连生产最多 240 层芯片的许可，同时可能向华盛顿申请批准，以便在那里开展 300 层以上芯片的研发工作，从而为未来在美国进行生产奠定基础。该公司正在与特朗普政府商讨在美国建立新的 NAND 芯片工厂的计划。

The US government's Bureau of Industry and Security did not directly address Reuters questions on the status of approvals for the South Korean chipmakers. It referred Reuters to its 2025 statement that the bureau intended to grant license applications for them to operate their existing factories in China, but not expand capacity or upgrade technology.

美国工业与安全局并未直接回答路透社关于韩国芯片制造商获批情况的提问。该局只是让路透社参考其 2025 年发布的声明，即该局打算批准这些企业继续在中国运营现有工厂，但不允许他们扩大生产规模或升级技术。

YMTC MAKES PROGRESS **YMTC 取得进展**

As Samsung and SK Hynix have wrestled with the question of how much to invest in their Chinese plants, YMTC has made great strides.

在三星和 SK 海力士还在纠结应在中国工厂投入多少资金时，YMTC 已经取得了巨大的进展。

It commanded 38.5% of China's NAND market in the second quarter, up from 28% for all of 2025 and overtaking Samsung, according to research firm Omdia. In contrast, Samsung's share has slipped to 33.5% from 36% while SK Hynix's share has dropped to 17% from 20%.

根据研究机构 Omdia 的统计，该公司在第二季度占据了中国 NAND 市场的 38.5%份额，这一比例高于 2025 年全年的 38%水平，也因此超过了三星。相比之下，三星的份额从 36%下降到了 33.5%，而 SK 海力士的份额则从 20%降到了 17%。

YMTC's product lineup is mostly 160- and 232-layer NAND chips, but it also produces a small amount of 294-layer chips and plans to manufacture products with more than 300 layers, according to two separate people.

据两位知情人士透露，YMTC 的产品以 160 层和 232 层的 NAND 芯片为主，同时也生产少量 294 层芯片，并计划制造层数超过 300 层的芯片。

YMTC did not respond to a Reuters request for comment.

YMTC 未回应路透社的置评请求。

Outside China, Samsung sells NAND chips with up to 286 layers and it also unveiled a prototype NAND chip with more than 400 layers in August. SK Hynix sells NAND chips that are up to 321 layers.

在中国以外地区，三星销售的 NAND 芯片层数可达 286 层；8 月时，该公司还推出了层数超过 400 层的 NAND 芯片原型。SK 海力士销售的 NAND 芯片层数则可达 321 层。

Adds Samsung, SK Hynix share reaction in paragraph 9

第 9 段补充了三星与 SK 海力士股价的变动情况。

Reporting by Hyunjoo Jin and Heekyong Yang in Seoul, Liam Mo in Beijing, Karen Freifeld in New York; Editing by Eduardo Baptista, Miyoung Kim and Edwina Gibbs

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