

# The smartphone: a global product

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## Globalised smartphone manufacture

Example of the latest Huawei P30 telephone



**HiSilicon** (China), manufactured by subcontractors in **Taiwan**, based on an architecture developed by **ARM** (UK), an affiliate of **SoftBank** (Japan)

\*Organic light-emitting diode

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All the different companies—and countries—involved in making the latest Huawei P30 smartphone

Smartphones are a product with which China has demonstrated not only its manufacturing prowess, but its ambitions to become a cutting-edge technology developer thanks to the rise of Huawei.

The company is not just in the lead in developing equipment for fifth-generation networks, it has also moved into the high-end [smartphone](#) segment.

But the US clampdown on the firm over fears Huawei's products could be used for Chinese spying demonstrates just how global the manufacturing of smartphones remains.

Take for example Huawei's P30, its latest top-of-the-line smartphone, as the company's overseas sales have plummeted by 40 percent as the firm grapples with the ban on using US technology.

## **Screen**

The P30 uses an AMOLED screen, a technology that was principally developed by the US firm Kodak. The two largest manufacturers of such screens are South Korea's Samsung and LG. Huawei buys the screens for the P30 from Samsung.

Like many smartphone manufacturers, Huawei uses a chemically strengthened Gorilla Glass developed by the US firm Corning to cover the screen to protect it from scratches and breaking.

## **Cameras**

The P30 rivals the other latest smartphone models with three rear-facing

cameras.

Huawei has beefed up its chops in photography by partnering with Germany's Leica for designing the cameras for its high-end models, including the P30. The cameras are assembled by China's Sunny Optical.



While Huawei is Chinese, its flagship P30 phone is a global creation, made up of components designed and manufactured around the world

## **Processor**

The central processing unit is another area in which Huawei has sought to demonstrate its own technical prowess, developing its own line of

Kirin processors, including the 980 used in the P30, but they are manufactured by a Taiwanese company.

Other leading smartphone firms like Samsung and Apple have also recently moved to use their own CPUs in their phones.

But they all use a common architecture for these chipsets developed by the British firm ARM, which is now a unit of Japan's Softbank. The dedicated graphics processor also uses ARM architecture.

## **Memory**

The RAM memory used by the processor is made by South Korea's SK Hynix, although previous versions of Huawei's top-line phones have used components from the US firm Micron.

Micron, like fellow US firms Qualcomm and Intel, has announced it will no longer supply Huawei in line with government directives.

## **Connectivity**

Huawei doesn't produce the wifi and Bluetooth antennas and modems used in smartphones, the standards of which are decided by associations of manufacturers. The US firms Qualcomm and Intel are the major manufacturers for wifi modems for high-end smartphones.

## **Operating systems**

With the exception of Apple, almost all other smartphones manufacturers use Android, the open source operating system developed by Google. The P30 uses the latest version, 9, called Pie. Like most smartphones companies, Huawei adapts Android slightly to create a

unique user experience.

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