

China's underground market for chips draws desperate automakers

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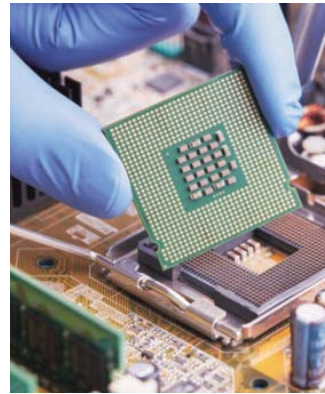
19 October

In her two-bedroom apartment on the outskirts of Chinese tech hub Shenzhen, Wang woke to a deluge of messages. One read:

“SPC5744PFK1AMLQ9, 300 pc, 21+. Anyneed?”

Within minutes, the 32-year-old was at her computer in the living room, hurriedly clearing away empty packets of instant noodles and pulling up a spreadsheet. The code referred to a chip produced by NXP Semiconductors Inc. and used in a car's microcontroller unit. The sender of the message was trying to find a taker for the 300, made no earlier than 2021, that had come into his possession. Neither Wang, nor any of her six-

member team, are legitimate chip dealers. Freelance brokers like her used to be bit players in China's semiconductor market, but they became increasingly important in late 2020 when a worldwide shortage of chips began to disrupt supplies of everything from smartphones to vehicles. Now, they've formed a massive gray market — an opaque forum populated by hundreds of middlemen and riddled with second-hand or out-of-date chips where the cost of acquiring just one can run to 500 times its original price. The situation is most acute with chips destined for cars, which are becoming more like computers on wheels as the industry is revolutionised. The US's recent chip technology



export curbs will only make the shortages worse, encouraging underground activity, the head of China's major car association said. “Recent US sanctions have

introduced another round of panic to the market and disturbed the supply of both entry level and more advanced chips,” China Passenger Car Association Secretary General Cui Dongshu said last week. “Distribution channels and the prices of chips are messed up.” Opportunists the world over have seized on the chips shortfall, jacking up the price companies pay for the crucial circuit components. But a lack of regulation and soaring demand — China is by far the biggest global market for cars and is in the throes of a new wave of electric vehicles — mean under-the-table deals are more widespread here. In scores of interviews with more than a dozen people involved in

this world, all of whom declined to be identified because of the sensitive nature of what they're doing, *Bloomberg News* pieced together how the complicated network operates. Substandard chips have so infiltrated the supply chain, many brokers say, that car quality, and worse — safety — is at risk. Should a fraudulent chip fail in the ABS brake module of a vehicle, for example, the consequences could be life threatening. Leading German auto-parts supplier Robert Bosch GmbH received several requests from Chinese carmakers to process vehicle components using chips that had been sourced on the gray market by the companies themselves, people familiar with

the matter said. Bosch ultimately turned down the requests, believing the chips could risk the integrity of its own parts. One automaker requested Bosch work with gray-market semiconductors whose price had soared during a Covid outbreak because Bosch's Malaysian supplier had to cease production of the chips, used in Bosch's ESP (Electronic Stability Program) product. (Electronic stability programs work with a car's antilock braking system to detect skidding movements and counteract them.) Bosch refused, one of the people said. A representative for Bosch referred to an interview that Xu Daquan, its executive vice president of China, did in September, in which he said the

chip shortage “is not expected to be solved in the next year.” The company declined to comment further. While operations like Wang's are legal in that they're registered companies and pay taxes, the provenance of chips bought and sold on the gray market can be difficult to assess. According to Wang, the “conventional system whereby auto suppliers place an order through an authorised agent and wait for distribution from an original chipmaker no longer works.” Semiconductors required for microcontroller units have been among the hardest to source and command the most eye-watering prices, reporting by *Bloomberg* found.