

'I employ a lot of hackers': how a stock exchange chief deters cyber-attacks

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Six Group counts its profit in millions, but the financial pipework it controls moves billions. Its operations, which include the Spanish and Swiss stock exchanges, count as critical national infrastructure and this gives it a close relationship with governments and regulators in Madrid and Zurich. Those relationships are critical in an age where digital warfare makes financial infrastructure a prime target for hackers linked to hostile states. Jos Dijsselhof, the Dutch chief executive of the Swiss-based stock exchange group, is open about the scale of the challenge. "I employ a lot of hackers," he says, tapping the table sharply. "Sometimes it takes one to know one." The hack earlier this month on the Wall Street arm of China's biggest bank, ICBC Financial Services, has put cybersecurity at the forefront of economic security debates again. The move disrupted the US Treasury market by forcing ICBC FS clients to reroute trades, with some settled by couriering the details across Manhattan on a USB stick. ICBC FS said it managed to contain the incident by disconnecting and isolating affected systems, and completed all the necessary trades. Still, the scale and nature of the ransomware onslaught – the same kind of attack that triggered a shutdown of money transfer service Travelex in 2020 – underlines the evolving risk such companies face. Six Group has invested in three tranches of cybersecurity, Dijsselhof says: walls to stop people getting in; containment systems for if they do get in; and recovery functions for when someone is "holding hostage" any part of the business. "Attacks are getting more and more sophisticated at a phishing level. Also, I am seeing more and more attempts using telephone numbers, WhatsApps and so on, but also big mechanical push attacks on our systems, where several parts are under attack at once and then we get a demand for payment after they find a vulnerability," he says. "It's a race we're in, with the attackers ever improving and the defenders always improving. We have to make sure our defences are high enough. The other thing you have to do is invest everywhere. Your standards have to be the same everywhere across your business." Six Group has four main business activities: trading on its exchanges; listings; post-trade clearing and transaction processing; and data services. Its growing data business makes it a target for wider corporate espionage as well as cyber-attacks. After "social engineering" efforts using personal details to target staff were uncovered, badges no longer carry last names, clean-desk policies are far more strictly enforced and the processing and communication of sensitive information is now subject to higher bars of regular mandatory training. The business is small relative to its competitors, London Stock Exchange Group and EU-focused Euronext, but it still caused upset at the European Commission when it succeeded in buying the Spanish exchange operator, Bolsas y Mercados Españoles (BME), for €2.8bn in 2020. The purchase flew in the face of EU plans to bring more of the bloc's financial infrastructure into EU members' hands, a long-term effort to "onshore" financial services.

Euronext, headquartered in Amsterdam and Paris, has been the focal point of such efforts, buying up a range of financial infrastructure. Switzerland is not an EU member state, and had to battle this competitor. "We did it almost by stealth," Dijsselhof says. "It's almost not about the price; in fact, when it's a country's critical national infrastructure, the price is secondary. "They are the prominent force in our EU plans. And they knew that the Spanish stock exchange would not be absorbed by Paris or Frankfurt or London." Six's new London offices, near the Gherkin in the City, still smell of fresh paint. By contrast the economic backdrop is looking tired: high inflation, higher interest rates and low or no growth. "I've never seen IPOs [initial public offerings] as low as I've seen this year," says Dijsselhof. "Trading is also very low: although there are some volatility moments, still there are a lot of people still on the sidelines. So from an exchange point of view, we had one of the slowest years ever. "But on the post-trade side, where we do the clearing, the settlement and the custody, both in Spain and Switzerland, and internationally where people hold balances with us, we benefit from the higher interest rates. And then there's the data business, which is really, I think, a diamond in our crown." This mixed business model helps even out the impact of a sluggish economy. Data services, as banks and other financial institutions need ever more data to train artificial intelligence programmes, offer a route for growth even in an economic downturn. Dijsselhof is still gloomy about the economic outlook and the prospect of further conflict in the Middle East, as well as Ukraine. He expects inflation to be "sticky" in the months ahead with a longer period of stagflation than many had predicted. Burgeoning conflicts in sensitive regions are also going to keep energy prices elevated, he believes: it's going to be a bumpy ride.