War Of The Screens
Asian business

As LCD makers gear up to make bigger, cheaper, flat-panel displays, the plasma kings vow to fight back.

Standing on a barren patch of ground in the South Korean town of Paju is a new factory so gigantic that it could hold eight soccer stadiums. The exterior of the 200-foot-tall facility is finished, and heavy-duty trucks and cranes are moving in multimillion-dollar robots and other equipment. When completed by the end of this year at a cost of $5 billion, the factory, owned by LG.Philips LCD Co., will be the world's largest maker of liquid-crystal display panels, the main building block for LCD flat-panel televisions. Paju will be a so-called seventh-generation (G7) plant, capable of churning out sheets of specialized glass some 77 inches by 89 inches in size, far bigger than those produced by earlier generations of plants.

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The factory at Paju is one part of a huge arsenal, an arsenal being built at breakneck speed by the Koreans, Japanese, and Taiwanese in the fight to own the global television market. LG.Philips plans to spend a total of $25 billion in the next decade at Paju, where it will expand its G7 plant eightfold. Samsung Electronics, meanwhile, will spend $20 billion to build out its LCD panel operation in Tangjeong, Korea. Japan's Sharp is erecting a $1.4 billion plant that will make even bigger LCD glass panels than Paju when it opens in October, 2006. The Taiwanese -- Au Optronics Corp., Chi Mei Optoelectronics Corp., and others -- are not far behind in the arms race.

This buildup in Korea and beyond has huge implications for the televisions we'll all be watching over the next decade. The bigger the glass sheet an LCD plant can produce, the more flat panels for TVs it can punch out of the sheet. Not only more TV panels but bigger ones as well: Technicians can punch out eight 42-inch panels from a G7 glass sheet, as opposed to three from a G6 sheet.

The resulting gain in productivity is shaking up the TV industry. Average prices of smaller, 20-inch LCD TVs have already tumbled from more than $5,000 in 2000 to under $600 today, as each new generation of plants introduces efficiencies and lower costs. The price drops have expanded the market for flat-panel TVs, which is expected to double this year, to 26.6 million units worldwide, according to researcher DisplaySearch. Profits have weakened as new supply comes on line, but analysts expect an earnings rebound for LCD TVs next year.

The arrival of the G7 plants means humongous flat-panel LCD TVs could soon become affordable -- not just high-priced toys for the rich. Analysts and display-industry executives expect the price of a 42-inch LCD TV to fall to under $1,500 in the next three years, from $2,900 at yearend 2005. "Our new-generation factory is enabling enough volume to support a mass market of large-screen TVs," says Bruce Berkoff, marketing
chief of LG.Philips, a joint venture between Korea's LG Electronics and the Netherlands' Philips Electronics. (PHG)

The democratization of big, thin-screen TVs will help create sophisticated home cinemas for families around the globe. But as LCDs move up in size, what does that mean for the plasma TVs that now dominate the big-screen category? LCDs rely on light-polarizing crystals for their effect, while plasma displays employ tiny pockets of glowing gas to produce images on a thin screen. Plasma TVs have ruled the market for screens 40 inches and larger because until now LCD makers ran into quality problems when they tried to make larger screens. The plasma makers, in turn, could not go down in size because plasma screens tend to lose brightness as they shrink. Plasma TVs at larger sizes have also been cheaper to make, since the glass needed is less sophisticated and less costly than the glass in LCD panels.

But now that LCDs are getting larger, they pose a big threat to companies such as Matsushita Electric Industrial Co. (Panasonic) and Pioneer Corp. of Japan that have flourished making big plasma screens. "You can expect a grueling fight between LCD and plasma next year in the 40-inch segment," says Duke Koo, executive vice-president in charge of global sales for LG.Philips.

Plasma TV makers now control 88% of the market for 40-inch-plus, thin-screen televisions, and they are not about to concede a single pixel. Matsushita, which commands a quarter of the global plasma TV market, just spent $860 million on a new television plant in western Japan that will open in October. Matsushita projects that it will sell 2.1 million plasma TVs this year. Pioneer, which has an 8% market share, is also increasing production.

Because plasma is a cheaper technology, plasma TV makers -- as they expand capacity -- have been easily able to match the LCD crowd's price reductions. The price of a 42-inch plasma set, which should hit $1,800 by yearend, is expected to fall to $1,150 by 2007. Moreover, plasma manufacturers insist that at bigger sizes, LCD televisions are afflicted with color and image distortion. "Plasma TVs can be watched from different angles without losing clarity," says Masaaki Fujita, the head of Matsushita's plasma TV division. "For a family that watches movies together, that's important." LCD makers respond that among the better brands, the problems of color distortion and "motion blur" have been resolved, and that LCD TVs use less power and last longer.

At stake are billions of dollars in revenues and profits. Some $21 billion worth of thin-screen televisions were sold in 2004. The competition is already heating up. On Aug. 1, Sharp Corp. (SHCAY) -- Japan's biggest player in LCDs -- began selling a 65-inch LCD TV in its home market for $14,500. Sharp plans to ship it to other countries before yearend. Then, on Aug. 25, Matsushita in Tokyo introduced its Panasonic high-definition Viera 65-inch plasma set, which will sell for about $9,000 when it comes on the market later this year.
Despite the brave face it puts on, the plasma TV industry has had to give up the 32-inch market to LCD makers. In the end, plasma may be confined to sets of 50 inches or more. "I think it quite probable LCD will have an [overall] edge after three years, given its economies of scale," says analyst Daniel Kim of Merrill Lynch & Co. (MER)

How so? While plasma screens are used mostly for televisions, the LCD industry churns out displays for 200 million computers each year, as well as for millions of cell phones, personal digital assistants, digital audio players, and cameras. "Profits from notebooks, monitors, and mobile devices give us resources to keep investing in next-generation plants," says Cho Yeong Duk, Samsung Electronics' vice-president in charge of LCD business strategy. Plants that will revolutionize the industry.

www.businessweek.com, asian business, september 12, 2005