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## IGZO, a new entrant to replace a-Si, competes with LTPS

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What will the displays look like in the future? A hard glass sheet showing information you may or may not care? What may interest you is represented with different forms and applications. At CES 2013, variable display form factors are seen in a Sharp's introductory film about its new semiconductor technology, IGZO. The technology enables a new life style by integrating displays into an imagined living scenario.

Any mirror can turn into an information display to show the webpages and TV videos. You can browse daily news when brushing teeth after waking up. Besides the watching function, the mirror-like display can detect water temperature when you turn on the tap; you can check health condition by putting your hands on this smart device. You can even calculate calories before eating meals in a glass bowl. To pursue intuitive touch responsiveness, the panels featuring Indium Gallium Zinc Oxide (IGZO) are said to offer paper-fel touch panel for both multi-touch and pen-like input ways. Perhaps it could provide the best solution to the human machine interaction.

### IGZO more potential for large-sized 4K2K displays

Every technology has its limitation, the same as the mainstream amorphous silicon (a-Si) technology applied to the display industry. At present, the a-Si TFT is the mainstream technology for LCD displays. However, the next-generation display requires high resolution over 300 ppi, large-sized supportability, and flexible form factor, which the a-Si technology cannot meet perfectly. The IGZO technology is considered to be one of the leading display technologies during the next few years to meet the requirements. The IGZO is a revolutionary and transparent

compound semiconductor, leading to upcoming displaying breakthroughs and life-changing user experiences. The IGZO technology is utilized to realize the next-generation display technology. It is developed by Sharp Corporation, who is the first to successfully mass-produce IGZO and bring to market. With the introduction in 2012 by Sharp, the technology is anticipated to enter the smartphone market which is the largest panel and affordable market for the new technology. With the technology, the mobile devices are considered to have more battery life and better visual quality. Therefore, the IGZO is believed to be the other important technology besides the current mainstream Low Temperature Poly-Silicon (LTPS) and amorphous silicon (a-Si) technology for the small-sized panels. Though the LTPS backplane can support up to 300 ppi of resolution, but it also has its limitation like size restriction to small and medium sizes only. The IGZO technology seems to be the most ideal solution to the next-generation display because of its flexibility in both size and form factor.

Fig. 1 Sharp-Aquos-Phone-Zeta-SH-02E



Courtesy: Sharp

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Breath. produced two new Annex documents which must be used in conjunction with the BREEAM International NC 2016 manual for all data centre assessments. To keep the consultation focused, we have produced a paper on the BREEAM website that highlights the proposed updates and changes to the standard. The BRE Global version of BREEAM International New Construction is adaptable for all countries except those where there is a locally operated scheme Å by one of our partner scheme operators. These additional build types no longer need to apply for assessment through our bespoke process. There is now, in fact, an ongoing timetable for update and development which can be viewed on the BREEAM website here. How does it work? The draft technical standard for the 2016 version of this is live and open for consultation. Whatever your new construction development type, you can start your journey to certification by registering your project against one of our standards via a licensed assessor. Å Åwe set out to exceed the 85% pass mark for eÅÅÅ Outstanding Å Å so to achieve a score of over 90% is simply brilliant, enhancing the buildings economic and social value whilst mitigating its environmental impact creating better living and working environments for people, enhancing occupant satisfaction enhancing market demand, helping developers and owners to attract tenants, occupiers to attract and retain Å Å staff and house builders to showcase the quality of their homes to purchasers driving improvement in sustainable building approaches and technologies giving independent, third party certification of a development eÅÅÅÅ sustainable credentials contributing to corporate social responsibility, business reporting and sustainable business leadership. Where is it being used? The latest BREEAM scheme to undergo its regular update is BREEAM International New Construction. 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Annex 1 includes p and revised questps information that completely overrides issues in the Breeam NC 2016 Manual. Standards can p p used Each one uses a common structure that you can adapt depending on the type and location of the building. The latest Breeam scheme to submit to its regular update A new construction Breeam International. Construction.

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