Revisiting Universal Display Short Thesis

Jun. 12, 2018 12:15 PM ET | **Universal Display Corporation (OLED)** | 32 Comments | 6 Likes

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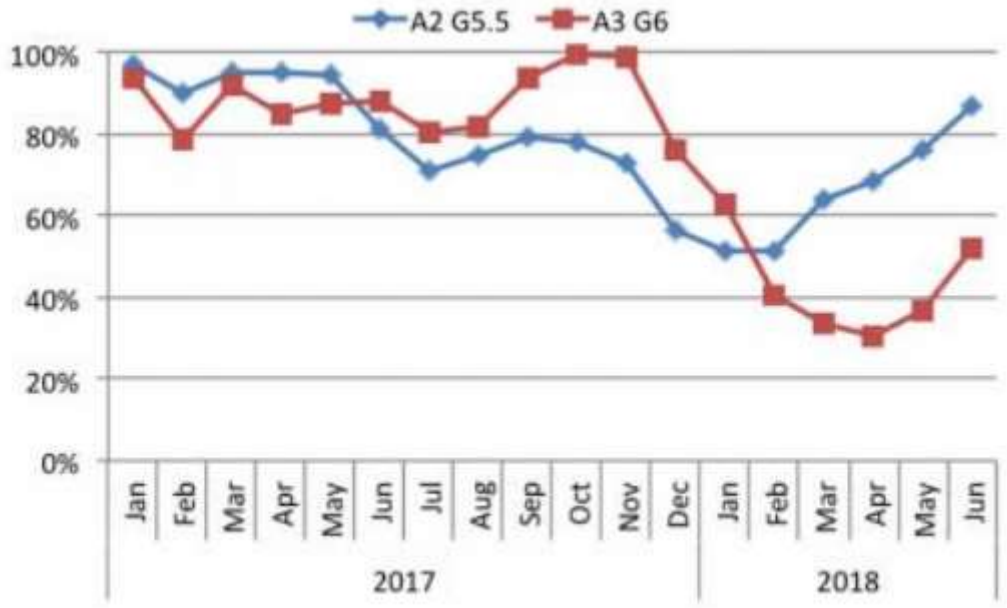
Summary

- Since our short thesis published, Universal Display declined ~50%, bringing its value far closer to our Realistic scenario target price ($75).
- In the latest display conference (SID 2018), Cynora and Kyulux, it was clear the two OLED TADF startups nipping UDC heels seemed to struggle more than expected.
- OLED industry suffers from overcapacity mainly due to lower iPhone X demand, but this temporary weakness starts to fade.
- 2019-20 may be regained momentum years as OLED TVs continue to grow and LG puts its chips behind it.
- OLED for automotive seems to cross the chasm. Samsung expects that its growth will explode from 100K units to 3M by 2022.

Six months ago, when Universal Display (OLED) stock hovered around $200, we detailed our short thesis, since then stock declined ~50%. Among the key culprits were the sky-high valuations and lackluster Apple's (AAPL) iPhone X sales.

In the recent months, it seems that the utilization of Samsung's (OTCPK:SSNLF) OLED fab (where Apple's iPhone X OLED displays are fabricated) starts to improve:

Samsung OLED fabs utilization



Source: DSCC

It's a good timing to re-examine the pillars of our short thesis that was published 6 months ago and see if they still hold:

Pillar 1: "The TADF OLED has crossed the chasm, offering better cost and energy consumption than UDC's emitters".

TADF (thermally activated delayed fluorescence) is a rare-earth-free OLED emitter that reaches 100% internal quantum efficiency (IQE), hence providing better cost and energy efficiency.

At the time, it seemed that Cyonra and Kyulux, two TADF startups that LG and Samsung invested in, will be able to demonstrate major advancements. We expected SID 2018 - the largest global display conference, held in May 2018 to be the latest date where both will showcase commercial TADF OLED.

From our original article,

> Cynora just reaffirmed three days ago that it will have a commercial blue OLED emitter ready by the end of 2017, which means it could be adopted by LG (LPL) or Samsung as early as next year"

Yet, no groundbreaking news announced by either Cyonra or Kyulux.

Even in the most important display conferences, SID 2018, held few a weeks ago, Cynora issued a vague PR about its blue TADF:

> "CYNORA has made tremendous progress on blue TADF emitters again. Since our last presentation at SID in 2017, we have achieved the requested performance on efficiency and color point" says Thomas Baumann, CYNORA's CSO, "We have now put all of our focus on lifetime where we are in the final development stage."

Since we always like to examine what is missing in a company's statements, we noticed that no concrete numbers were given, which is an indication that 6 months after it promised to bring commercial blue OLED, Cynora still struggles with it.

That may change in the coming future, but given the huge efforts invested by Universal Display (AKA UDC) to develop blue OLED, we lost some confidence in Cynora's ability to bring blue OLED before UDC.

Kyulux as well seems to struggle more than expected as it still demonstrates only Passive Matrix OLED (PMOLED), expected "to be in production by the end of 2018".

Kyulux and Wisechip unveiled a flexible HF PMOLED display.

No AMOLED (Active Matrix OLED, the ones used in Smartphones and TVs) plans were disclosed.

Pillar 2: "The bulk of UDC's patents are set to expire by the end of 2017, significantly increasing the risk of UDC's sales to low-to mid-end smartphones".

We're still holding up this argument and will follow closely UDC materials sales margins to look for MS loss or pricing pressure.

Pillar 3: Merck has been making strides with its OLED materials business, biting increasing share.

Merck's OLED business (see Merck's OLED materials here) continues to grow, despite currency headwind, as stated in Merck Q1/2018 conf call: "our Semiconductor Materials business and OLED achieved double-digit growth rates in Q1".

Merck continues to make strides with OLED ink-jets material, recently it was announced that a new Fab estimated to be opened in 2021 will use Merck materials.

We'll continue to keep an eye on the developments, looking for actual constructions to start as a red sign for UDC.

Pillar 4: "Samsung will be looking to only renew its UDC contract for the short term, or to minimize its commitment until TADF OLED has hit the market".

Samsung's (Universal Display's largest customer) contract was renewed in what seems to be a bit less favorable terms on Feb. 14th, yet we lack details on the termination terms and minimum quantities.

Pillar 5: Insiders have been selling en masse.

In the last six months of 2017, UDC's insiders have sold $250M worth of stock. Since the beginning of the year, insiders have sold ~25M, a tenth of the preceding 6 months.

Can Automotive be a White Swan?

Some new car concepts are using flexible OLEDs, trying to innovate car displays. LG Display is developing FHD 12.3" curved plastic-based flexible OLEDs, and the company is collaborating with Tesla (TSLA) and others, promising to start producing those display commercially by 2018.

Samsung has also been developing OLEDs for automotive - including flexible ones and transparent/mirror OLEDs. At its latest SID 2018, Samsung unveiled its immersive 3-D AMOLED prototype displays, which can be seen in the following video:



Samsung expects that its growth will explode from 100K units to 3M by 2022. While that may be over-optimistic the automotive seems to cross the chasm and emerges as the 3rd pillar for AMOLED on top of TV panels and smartphones.

Yet, while the automotive may be lucrative for display manufacturers, it may be a mild opportunity for UDC (Universal Display) as quantities may be limited (think the number of cars sold each year compared to smartphones).

Bottom Line - After a 50% fall, it seems like a good timing close the short position, yet risks are mounting in 2020-21 for UDC. Hence a neutral position is recommended.

This article was written by



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Additional disclosure: We closed our short positions and sold few long terms Put options, looking for the volatility to wind-down