

Press Release

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Paul Mullen, GM at Anders, Puts the Future of Displays, On Display!

Paul Mullen joins us today to discuss the market dynamics within the display and embedded technology market. In a series of three interviews, Paul will discuss his market outlook and industry reflection to bring us all up-to-speed with the driving forces behind the industries growth and innovative development.

Let me introduce Paul, he is the General Manager of Anders, and Anders specialises in the design, development, and supply of world-class display and embedded technologies for across the globe application.

Paul, by his own admission, is a bit of a display technology nerd and finds the market at present exciting, and full of potential opportunity, for both personal and professional reasons.

Q: Paul, you've been on the road since we spoke last. You've attended all the main European industry trade shows, Electronica, EDS, Productronica, Embedded World, Mobile Congress etc. What do you see in that crystal ball of yours and is it a touch technology crystal ball?!

"Good question, and to answer the latter part, no, but it will be, and soon! To answer that question, I think we need to be objective about our current reality and our future desired state.

The current reality is that some truly mind-blowing innovative technology is being discussed, and we at Anders are in discussions with some of the world's leading brand names to create prototypes of display technology that will really change the way that we interact within our day-to-day lives and our environment.

However, before we get carried away, we need to remind ourselves, that this technology is in its infancy, it's being discussed, Anders is conceptualising it, but it has not yet gone through to the product realisation stages, and we are a few years away from this type of technology being mainstream.

Regarding the markets future desired state, and the display and embedded technologies that we are currently engineering, and conceptualising are exciting. Especially looking towards specific technology clusters such as medical and automotive. We've seen the dashboard of the future and it would be at home within a sci-fi movie. The amazing thing is that the technology has come such a long way, in a relatively short period of time, so the products we see in these sci-fi movies, we are working on making them the reality.

So, just to bring it back to earth, and the here and now, in the short-term, the industry model will remain as it is today. There is still high demand for traditional displays. This market will continue to grow organically, as we see more and more mechanically controlled and operated devices being upgraded to include a touchscreen interface.

The financial projections for the industry quoted in 2018 were significant. The outlook for the entire TFT LCD market is to exceed \$120 billion and the whole of the OLED market to grow to \$40 billion. This financial figure will continue to climb due to the consumer uptake within the mobile market and OLEDs will continue to cannibalise the TFT industry over the next two to three years.

Monochrome displays will continue to be a primary driver, as IoT requires a level of information engagement, and offer a cost conservative solution, with the benefits of simplicity. The advancements in monochrome may come from the application being redesigned to move towards small form factor TFT, as small form factor TFT is financially becoming more accessible. We do of course see colour displays as being the future of displays, but as implied above, our experience shows that we may move from mechanically controlled devices to monochrome displays, before ultimately upgrading to the high-end sophistication of colour. So, monochrome could be seen as a short-term developmental stepping stone to transition from mechanical to display technology. At Anders, we are flexible, and it's about providing a solution that is fit for purpose, and monochrome is a very valid option including Vertical Alignment and Mono TFTs. This is the performance of a TFT with a monochrome appearance.

So, in conclusion to your question, I'd say that the industry as a whole, isn't going to develop rapidly overnight, but we are poised for growth and expansion with customers developmental forecasts stretching out to beyond 2021."

In the next edition, Paul will discuss how display technology is changing, and the solutions that sit behind the display that add value to ensure the product is always fit for purpose for example;

- **Shape** – the increased trend towards rectangular and circular displays
- **Design** – considerations in design such as cut-outs, thickness, branding, viewing angles, touch bumps, and spot facing
- **3D Touch** – enabling touchscreens to distinguish between various levels of force being applied to their surfaces
- **Flexible displays** – looking into the automotive industry and what the future dashboard will look like
- **Optical Bonding** – the benefits of and why more OEMs are moving towards optically bonded solutions

About Anders

Anders Electronics plc. is a display and embedded display design specialist, dedicated to making electronic touchscreen technology safer, simpler and more enjoyable to use.

Over 30 years ago, Anders started designing, developing, and delivering customised display solutions, for the non-consumer industry, and haven't stopped innovating since! Anders features a history of reliability and innovation and lives to solve display engineering challenges.

Anders harnesses their expertise in display, embedded computing and touch control technology to help differentiate their customer's products through exceptional design and engineering.

Anders, the people behind the screen.

For further information, please visit our website at <https://www.andersdx.com/>.