

INVESTOR PRESENTATION

19th Annual Needham Growth Conference
January 2017



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The financial information referenced in this presentation does not contain sufficient detail to allow a full understanding of Nanoco’s results. More detailed information can be found on the Investor Relations section of the Nanoco website (www.nanocogroup.com).

- A pioneer in the development and production of CFQD® cadmium-free quantum dots
- Scalable "platform technology" with multiple markets and product applications
- Cost and performance competitive versus OLED technology
- Key target markets are display, lighting, bio-imaging and solar
- Supply and licensing agreements in place with Dow, Merck and Wah Hong position Nanoco to dominate the markets and drive revenue growth
- LCD TV market starting to ramp usage of cadmium-free quantum dots with market leader Samsung leading the way with its SUHD TV range
- Extensive and growing patent portfolio
- Well funded for product ramp to profitability with approximately \$18 million in cash and equivalents as of 7/31/2016

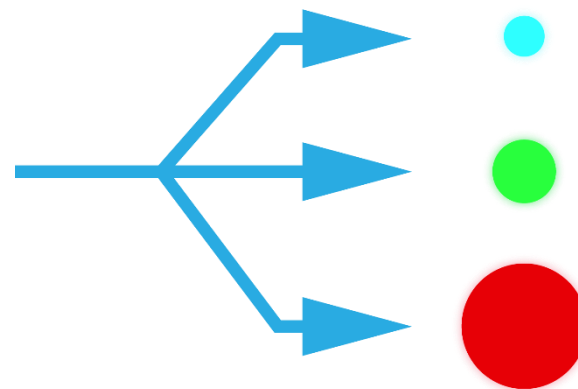


We continue to make substantial progress in the commercialisation of our technology

OVERVIEW

WHAT IS A QUANTUM DOT?

- Tiny particles of a fluorescent semiconductor material
- 1 to 10 nanometers in diameter
- Size of the quantum dot determines the spectrum of light emitted
- Smaller = blue; larger = red
- Quantum dots can also be tuned to light beyond visible light into the Infra-red or ultra-violet parts of the spectrum



Established technology with commercial applications

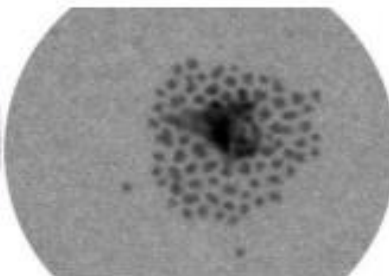
OVERVIEW

NANOCO ADVANTAGES

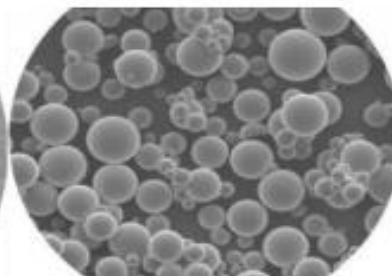
- World leader in heavy metal free quantum dots
- Unique “seeding process” enables mass production
- Bright and energy efficient
- Highly tunable to emit a specific color on the spectrum
- Quantum dot surface can be chemically modified for different end use applications, creating a “platform technology”
- Extensive & growing patent portfolio (c. 500 patents and patent applications) covering five key areas:



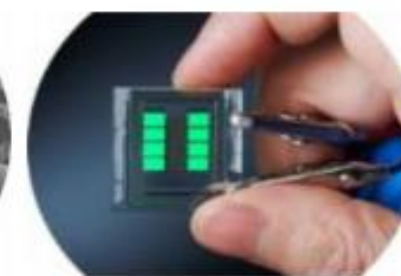
Process



Materials



Surface chemistry



Devices



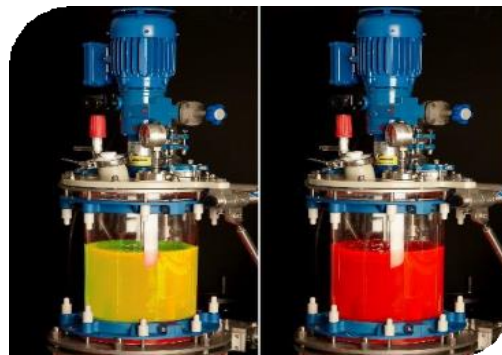
Solar



1) CFQD® quantum dots

CORE BUSINESS

Developing & manufacturing heavy-metal free quantum dots fit for purpose



2) CFQD® quantum dots + Resin

CORE BUSINESS

Ensuring Nanoco's CFQD® quantum dots work in customers' resin systems



3) CFQD® quantum dots/Resin in device

CFQD® quantum dots are incorporated into film, lens, capillary, LED, etc. Nanoco partners with end user customer or device producer such as a film manufacturer



4) CFQD® quantum dots product

Nanoco's near term focus for CFQD® quantum dots is on backlighting for LCD display and LED lighting. Nanoco partners with end user customer

OVERVIEW

KEY MARKETS ARE LARGE

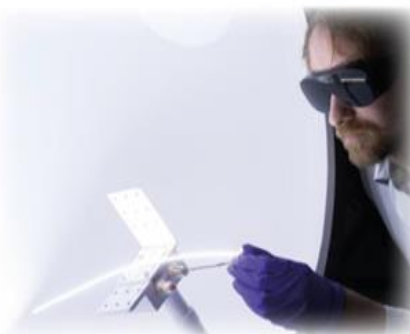
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Display



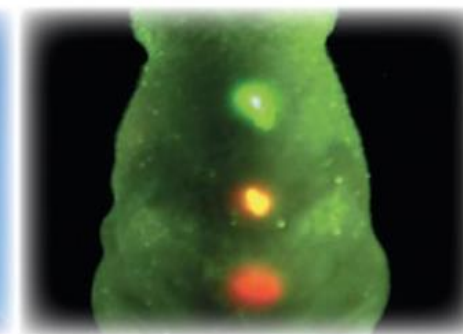
Lighting



Solar



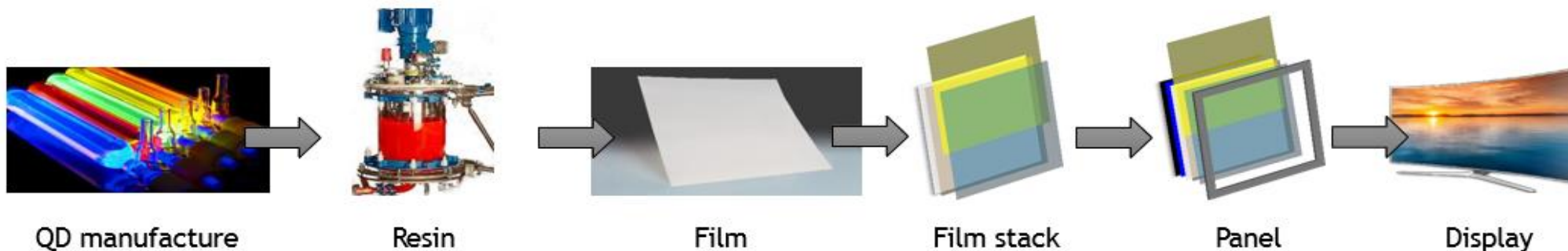
Biomedical



Application	LCD backlighting	High CRI LED lighting	Thin film solar	Biological imaging In-vivo & in-vitro diagnostic
Technology	CFQD® quantum dots CFQD® quantum dots resin	CFQD® quantum dots film	CIGS nanomaterials	Water soluble CFQD® quantum dots Functionalized CFQD® quantum dots
Business Model / Timing	License & materials sales	Film sales / Near term niche potential with ability to expand usage	Partner license & Material sales (toll)	Partner license with upfront fees / Longer term
Anticipated addressable market size	\$7.5B in 2022 ²	c.\$150M near term c.\$700M with further R&D	Expected to enhance the rapidly growing thin film solar market	QDs in healthcare = c.\$1B in 2022 ²

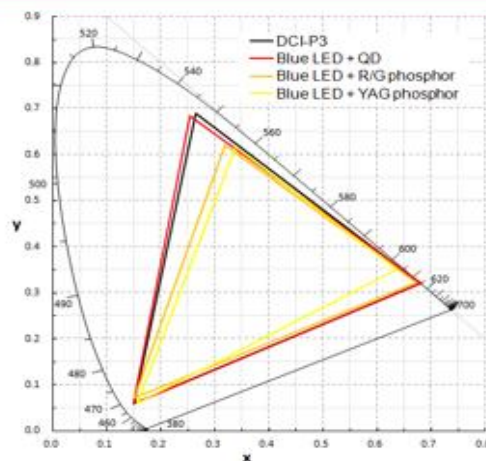
(1) Market&Markets – Quantum Dots Market by Product, Application, Material & Geography – Forecast & Analysis (2013 – 2022)

(2) MarketsandMarkets report, 2012



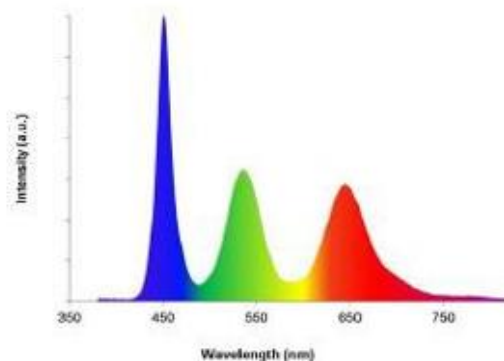
Better Color Gamut

- Much improved color saturation
- Improved color enhancement over LCD → similar to OLED



Energy Efficient

- Narrow bandwidth = more light extraction through color filters
- Enables use of blue LED instead of less efficient white LED

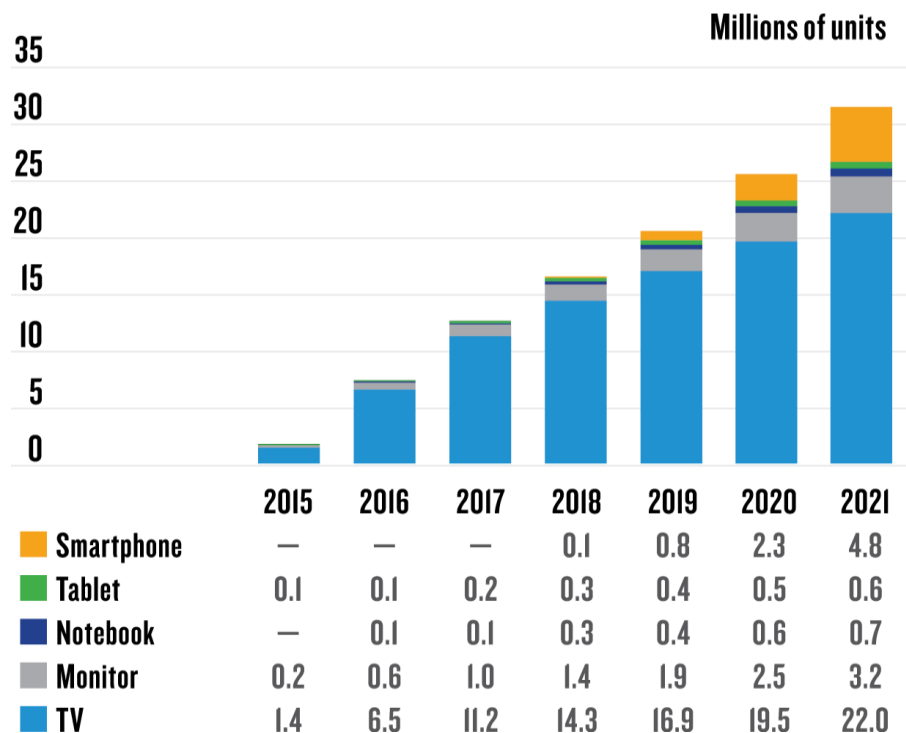


Minimal Process Change

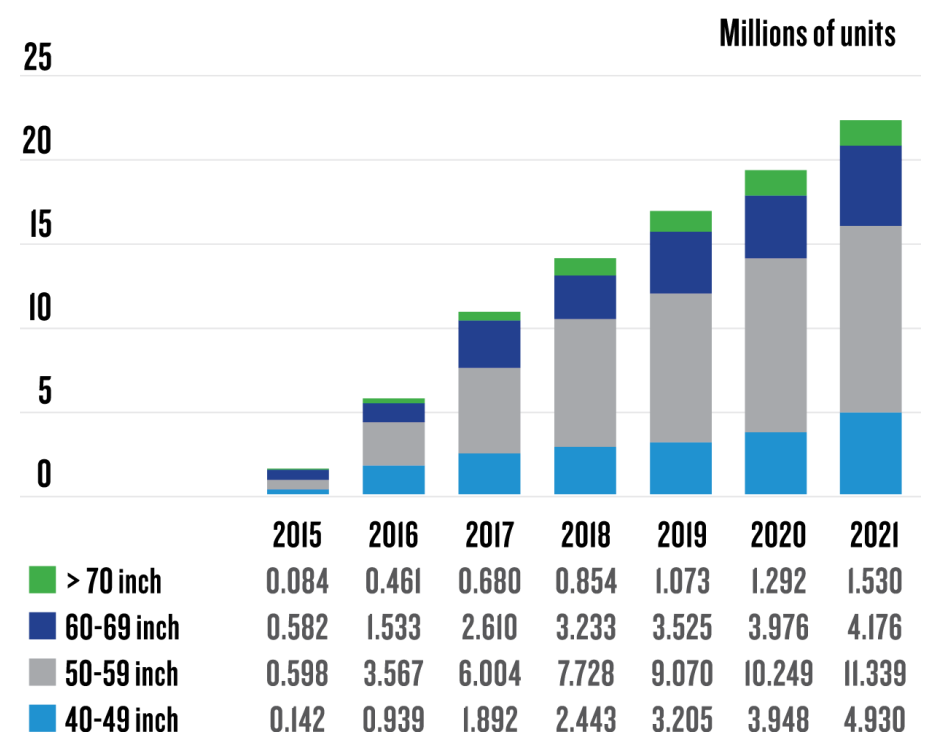
- Uses existing LCD manufacturing infrastructure
- Uses existing LCD supply chain



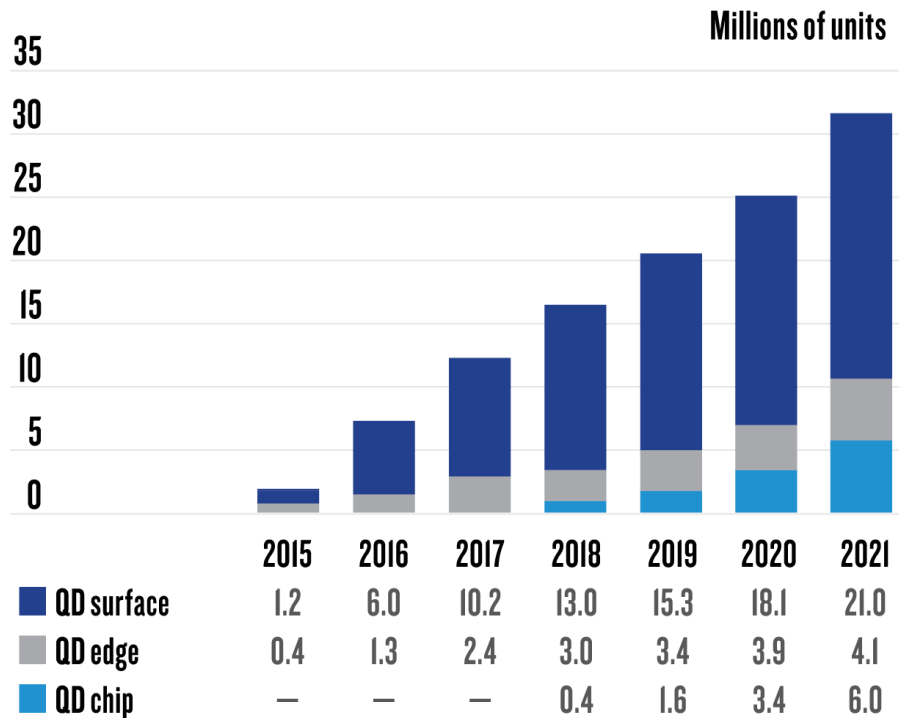
QD display market forecast by application (volume)



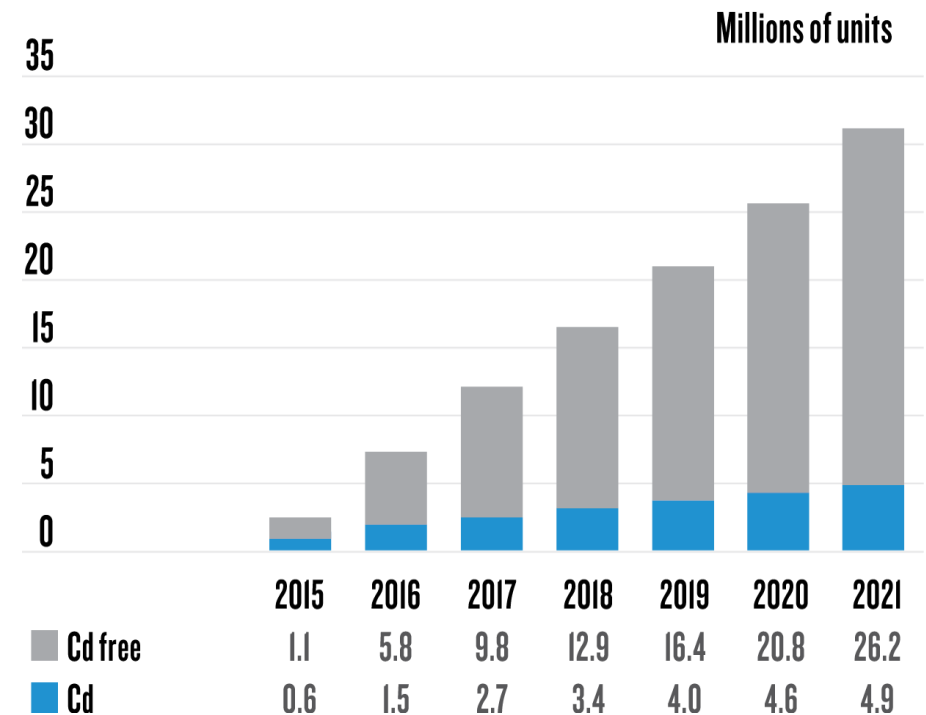
QD TV display market forecast by size (volume)



QD display market forecast by type (volume)

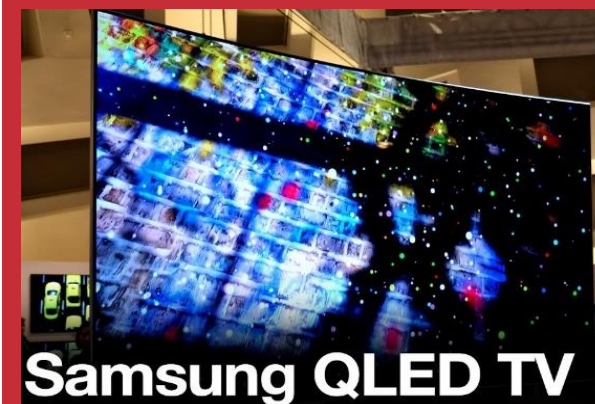


QD display market forecast by Cd and Cd-free (volume)





- TCL, Hisense and TPV-Philips exhibited large screen, ultra high definition, wide color gamut prototype LCD TVs at Nanoco's suite at CES 2017
- All three use CFQD® Fine Color Film™, the cadmium-free quantum dot film produced through Nanoco's commercial relationship with Taiwan's Wah Hong Industrial Corp
- Increasing interest from the OEMs to expanding QD range from high end TVs to monitors



Samsung has trail blazed the way, previously with its SUHD TV range, and now with its QLED TV and monitor range



DOW CHEMICAL

- Announced January 2013; modified March 2016
- Changed from exclusive to non-exclusive in March 2016
- Non-exclusive worldwide technology licensing agreement with royalty payments



WAH HONG

- Announced July 2016
- 7 year non-exclusive material supply and licence agreement with upfront licence fee, payment for delivery of QD resin and royalties on sales



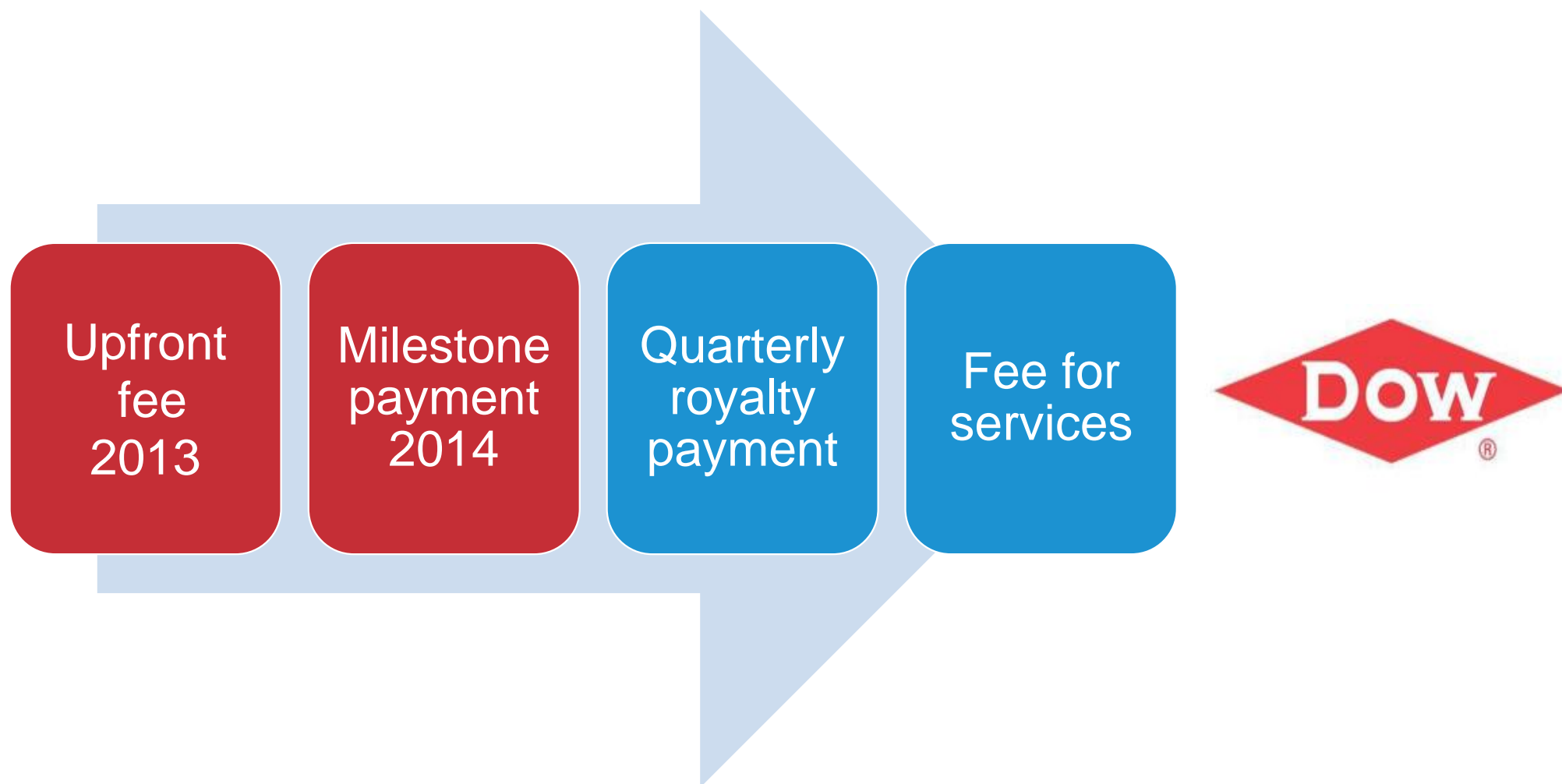
MERCK KGaA

- Announced August 2016
- Non-exclusive material supply and licence
- Agreement with upfront licence fee, royalties on sales of Merck produced product
- Ability for Merck to purchase Nanoco manufactured product to accelerate their market entry



COMPONENTS OF THE DOW AGREEMENT

- The Dow Chemical Company has a major international electronic materials business and has a non-exclusive licence to manufacture and market CFQD[®] quantum dots



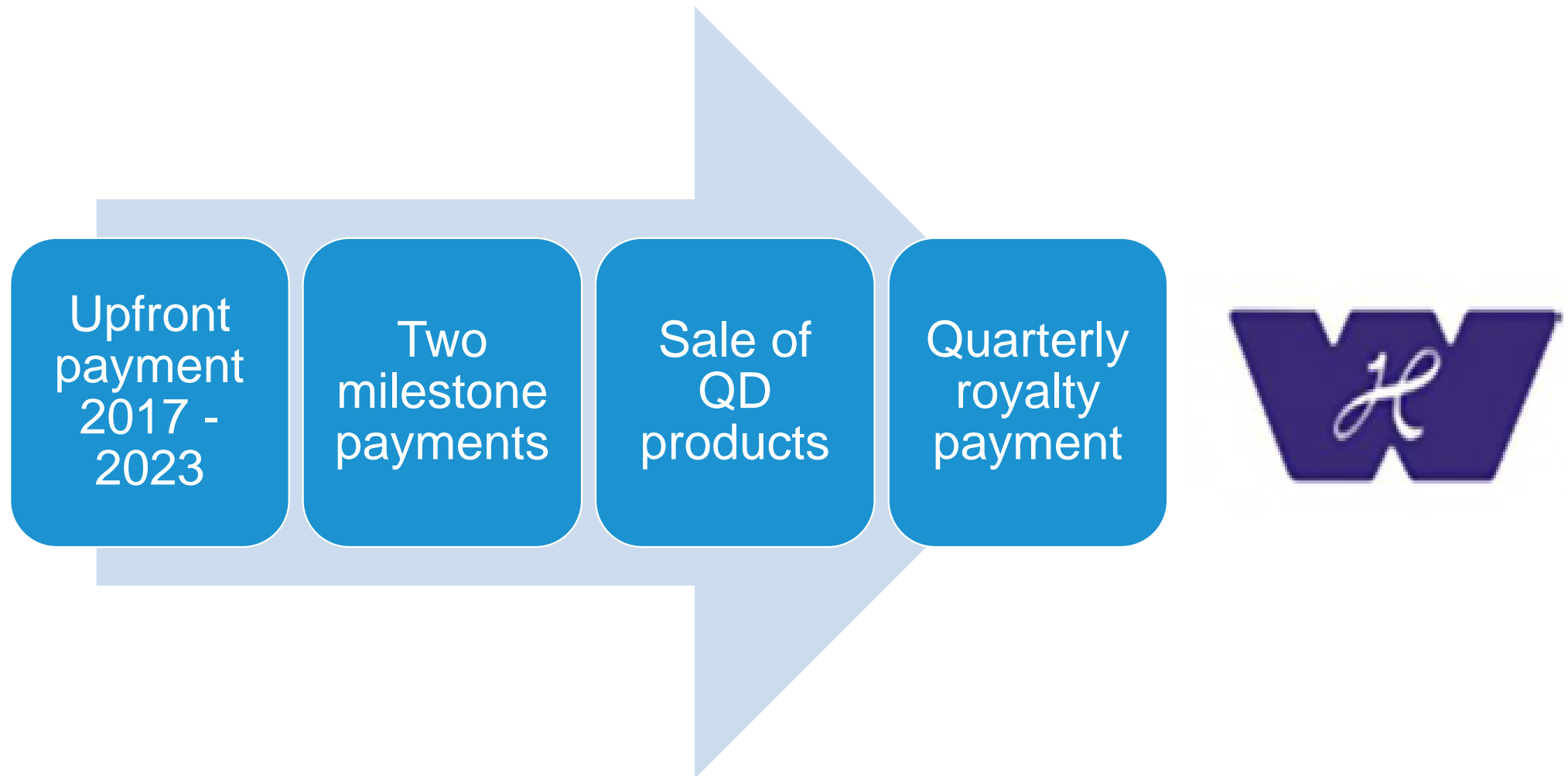
DOW'S CFQD FACILITY IN CHEONAN, SOUTH KOREA



- The new Dow CFQD® quantum dot facility will enable mass production of cadmium-free quantum dots under Dow's TREVISTA™ brand
- Facility is operational and has the capacity to support millions of large screen TVs
- Sample requests have increased over the past few months for Dow's TREVISTA™ cadmium-free quantum dots and are being fulfilled exclusively from the Cheonan facility
- Nanoco's improved production process for green CFQD®s has been successfully transferred to Dow

COMPONENTS OF THE WAH HONG AGREEMENT

- Wah Hong, headquartered in Taiwan, is a leading optical film manufacturer and supplier to the Taiwanese and Chinese display industry

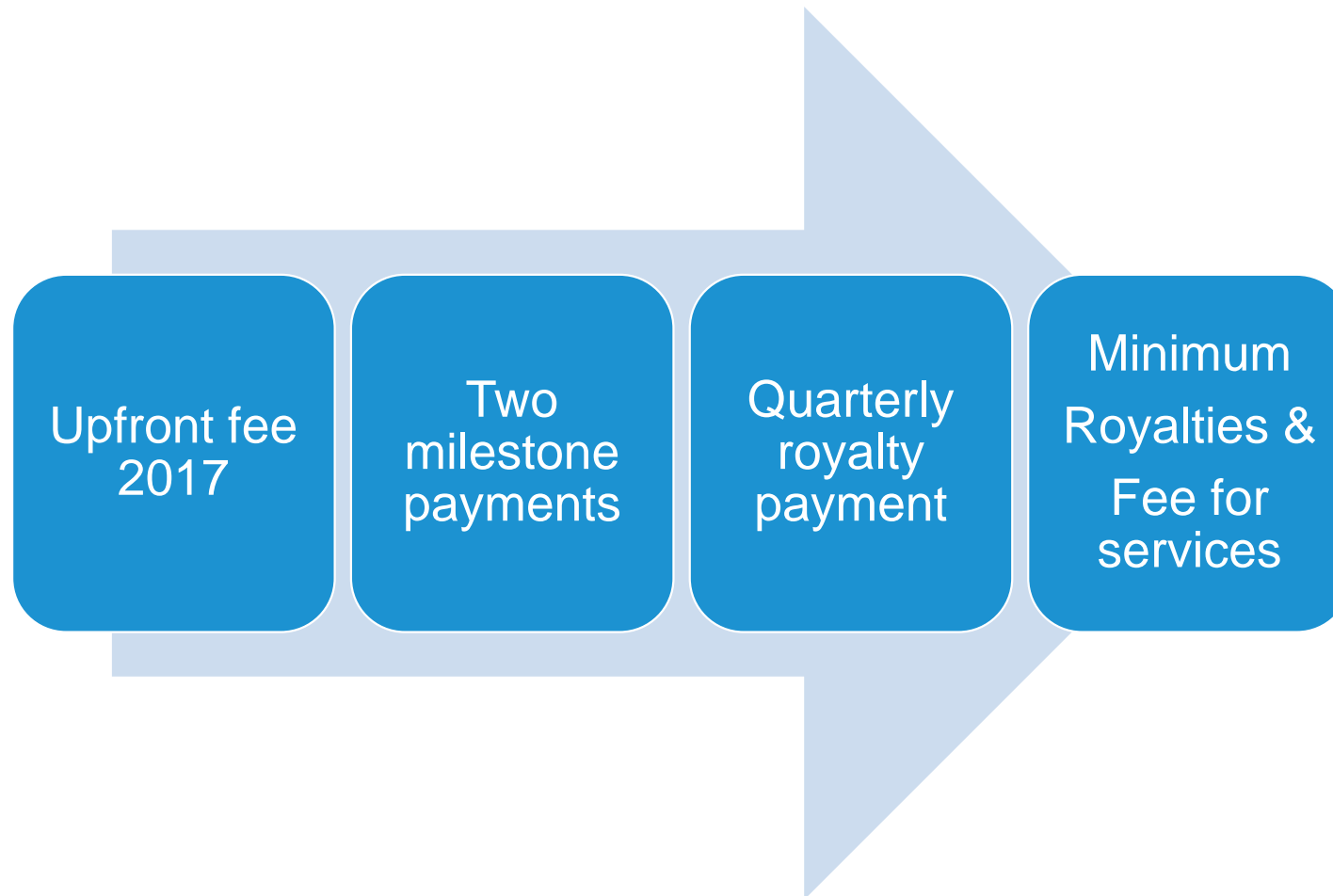


- Wah Hong is manufacturing film under Nanoco's CFQD® Fine Color film brand from CFQD® purchased from Nanoco's own production facility in Runcorn, UK
- Commercial discussions are ongoing with various Asian display OEMs for use of the CFQD® Fine Color film
- Hisense, TPV Philips and TCL all exhibited TVs using CFQD® Fine Color film at Nanoco's suite at CES 2017
- Wah Hong has brought forward by 12 months its investment in a further film coating production line and will allow Wah Hong to supply film for display screens of up to 100 inches



COMPONENTS OF THE MERCK AGREEMENT

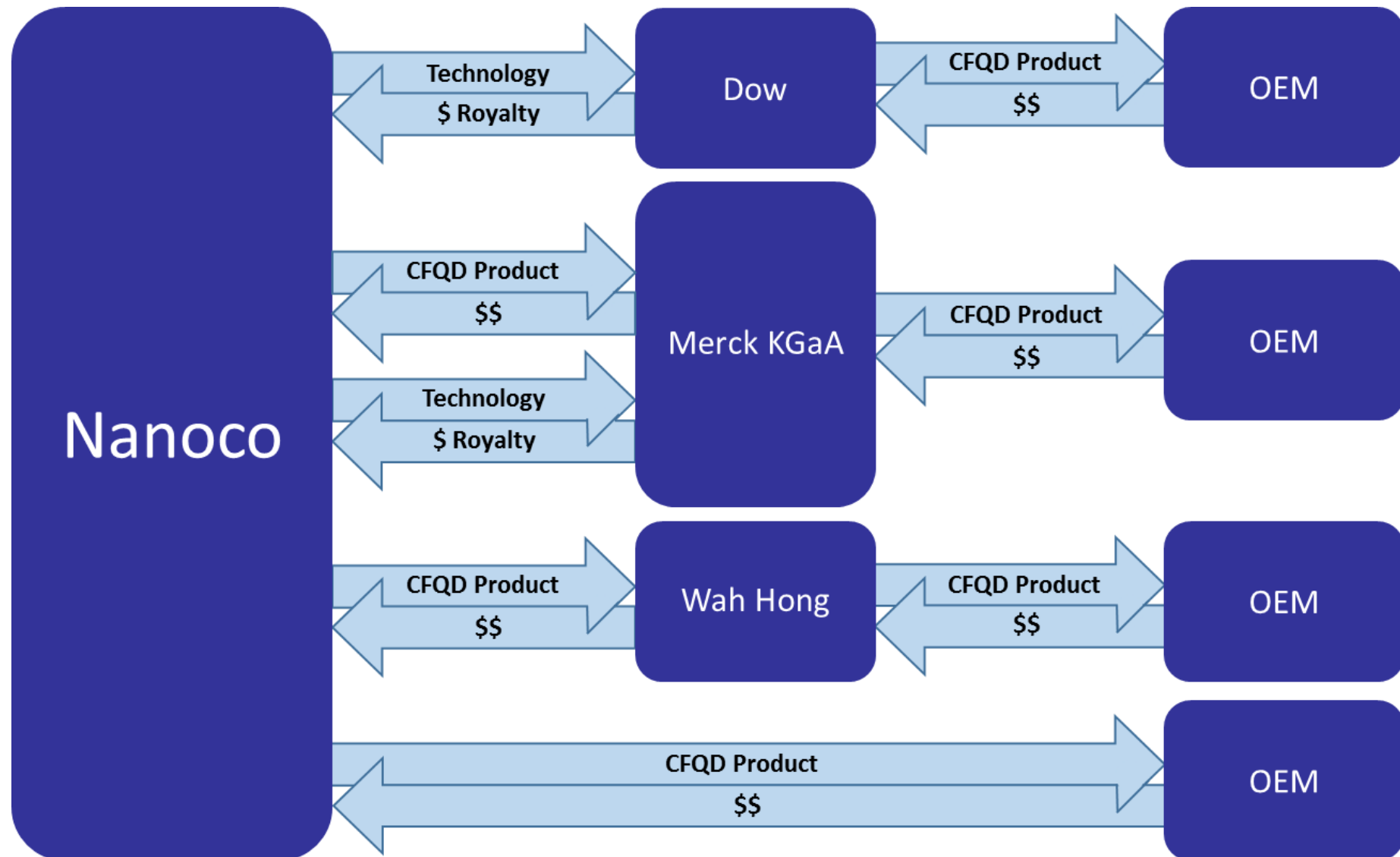
- Merck is headquartered in Germany and has c. 60% share of the liquid crystal polymer market
- Non-exclusive licence to manufacture, market and sell CFQD®
- Technology transfer progressing well and Merck is already producing small scale volumes of CFQD®s, whilst planning a new, large scale manufacturing facility



MERCK

DISPLAY

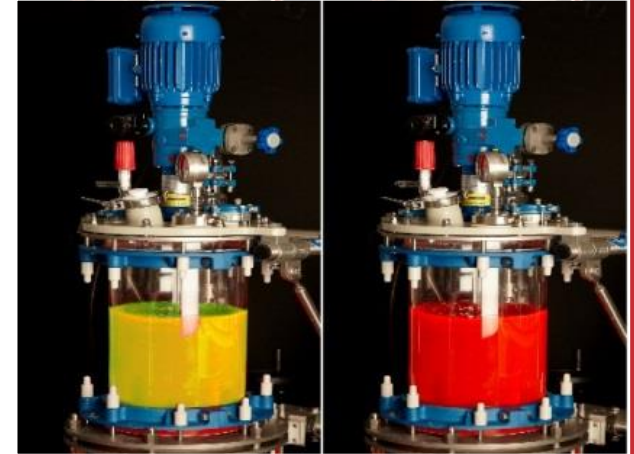
GO TO MARKET STRATEGY



DISPLAY

RUNCORN PRODUCTION FACILITY

- Nanoco's existing production facility in Runcorn has been enhanced to meet expected demand from Wah Hong and Merck
- ISO 9001:2015 certification for production and supply processes awarded in December 2016
- Scaling will require little additional capital expenditure due to recent manufacturing process improvements
- Capacity of the plant expected to be c. 500 Kgs per annum
- Additional capacity will be brought on as demand dictates



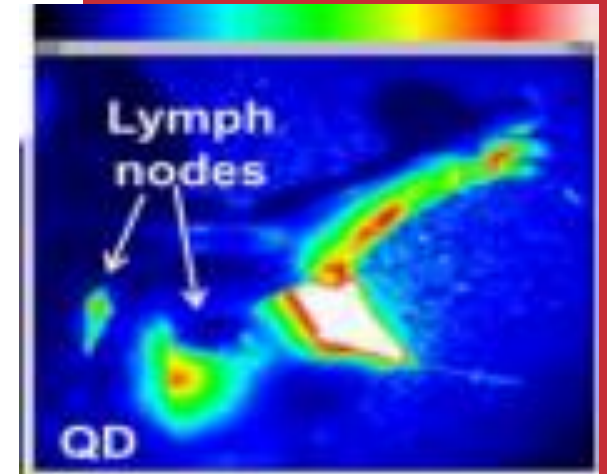
- Nanoco's cadmium-free quantum dots have the ability to tune the colour of light emitted by LEDs such that any particular shade of light can be produced by tailoring the wavelengths
- Potential applications for our technology are broad from improved white LED light in homes and offices to niche applications such as horticultural and architectural lighting
- Our commercial strategy is to work with licensing and marketing partners and also develop products ourselves
- Today's focus is in two niche areas: horticultural lighting and cosmetic skin treatment



Horticultural lighting to enhance seed germination and seedling growth

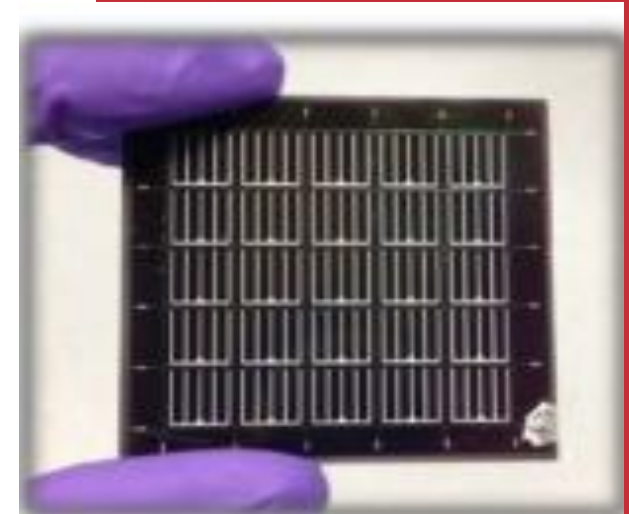


- Life Science Division established to address the substantial opportunity for our CFQD® quantum dot technology in the healthcare sector
- The team is lead by Dr Imad Nassani, who is one of the pioneers of the use of quantum dots in life sciences
- Focus on in-vivo cancer diagnostics and surgical imaging
- Business plan established which will initially focus on illumination of cancerous tumours and then with further development, cancer diagnostics
- Long standing work continued with University College London on the in vivo imaging of sentinel lymph nodes and breast cancer



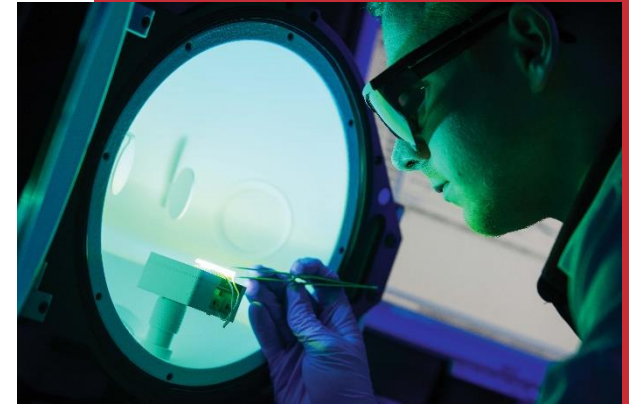
The florescence of Nanoco's cadmium-free quantum dots is being used to pinpoint malignant lymph nodes to guide surgeons in the removal of cancerous tissue

- Our solar ink has been designed to maximise the absorption of energy and can be printed by low cost methods and annealed into a PV film
- The technology is based on copper, indium, gallium, selenium (“CIGS”) materials
- Current performance is 17%
- We continue to work with Loughborough University on the scale up of our technology under a grant-funded project
- The priority in Solar is to identify a suitable partner to assist in the commercial scale-up



Development work to scale up the CIGS PV technology from small lab-sized cells to larger cells is on-going

- Transformational year with the decision to adopt a non-exclusive licensing strategy in display, enabling us to increase the pace of commercialisation of our technology
- New relationships established with Merck and Wah Hong have opened multiple sales channels into the display market
- Supply chain established for display industry
 - Nanoco → Wah Hong → OEM
 - Dow → film coater → OEM
 - Merck → film coater → OEM
- Product finalized for the display industry
- In house capacity dramatically increased without significant CapEx
- The market for Nanoco's cadmium-free quantum dots in display is developing rapidly
- Company is capitalized to succeed



APPENDICES



Dr Christopher Richards
Non Executive Chairman

- CEO, Non-Executive chairman, Arysta LifeSciences
- 20 years of increasing management roles at Syngenta
- Executive chairman of Plant Health Care
- Non-executive director of Dechra Pharmaceuticals plc and of Origin Enterprises plc

Dr Michael Edelman
CEO

- Led spin-out of Nanoco from University of Manchester
- GE/Bayer JV, founded www.yet2.com Europe, commercial director Colloids Ltd, Brunner Mond, ICI

Dr. Nigel Picket
Co-founder & CTO

- Inventor of Nanoco's key patented scale-up technology
- Leading expert on semi-conducting nano-crystals
- Japanese Government, St. Andrews University, Georgia Tech

David Blain
CFO

- Experienced Quoted Company CFO, Renovo, Drew Scientific, Price Waterhouse

Keith Wiggins
COO

- 30 years senior executive experience, 23 years with The Dow Chemical Company

Brendan Cummins
Senior Non Executive

- 40 years of industry experience mostly with Ciba Geigy, last role was
- CEO of Ciba and was responsible for selling Ciba to BASF
- NED of US Headquartered, Ashland Inc.

Robin Williams
Non Executive

- Experienced NED and Executive, Investment banking, Xaar, Manufacturing background.
-

STATEMENT OF COMPREHENSIVE INCOME

	2016 £'000	2015 £'000
Revenue	474	2,029
Cost of sales	(177)	(316)
Gross profit	297	1,713
Other operating income	284	—
Operating expenses		
Research and development expenses	(5,995)	(5,580)
Administrative expenses	(7,367)	(7,130)
Operating loss	(12,781)	(10,997)
- before share-based payments and the costs of the move to the Main Market	(12,511)	(9,452)
- cost of admission to the Main Market	—	(926)
- share-based payments	(270)	(619)
Finance income	193	119
Finance expense	(12)	(3)
Loss on ordinary activities before taxation	(12,600)	(10,881)
Taxation	1,993	1,906
Loss on ordinary activities after taxation for the year and total comprehensive loss for the year	(10,607)	(8,975)
Loss per share		
Basic and diluted loss for the year	(4.47)p	(4.05)p

APPENDICES

STATEMENT OF FINANCIAL POSITION

	31 July 2016 Group £'000	31 July 2016 Company £'000	31 July 2015 Group £'000	31 July 2015 Company £'000
Assets				
Non-current assets				
Tangible fixed assets	1,260	—	2,062	—
Intangible assets	2,423	—	1,821	—
Investment in subsidiaries	—	66,322	—	66,052
	3,683	66,322	3,883	66,052
Current assets				
Inventories	208	—	208	—
Trade and other receivables	2,045	42,988	902	31,866
Income tax asset	1,970	—	1,800	—
Short-term investments and cash on deposit	5,000	5,000	20,000	20,000
Cash and cash equivalents	9,511	4,057	4,311	12
	18,734	52,045	27,221	51,878
Total assets	22,417	118,367	31,104	117,930
Liabilities				
Current liabilities				
Trade and other payables	2,443	—	1,909	—
Financial liabilities	32	—	63	—
Deferred revenue	531	—	—	—
	3,006	—	1,972	—

APPENDICES

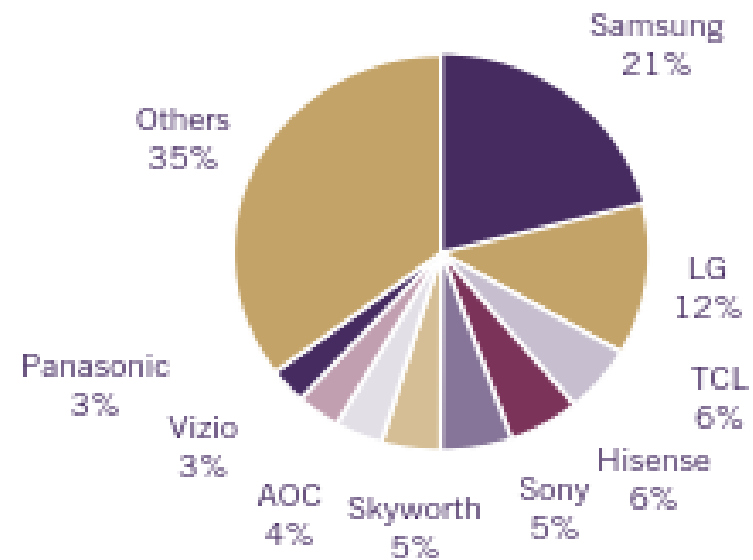
STATEMENT OF FINANCIAL POSITION

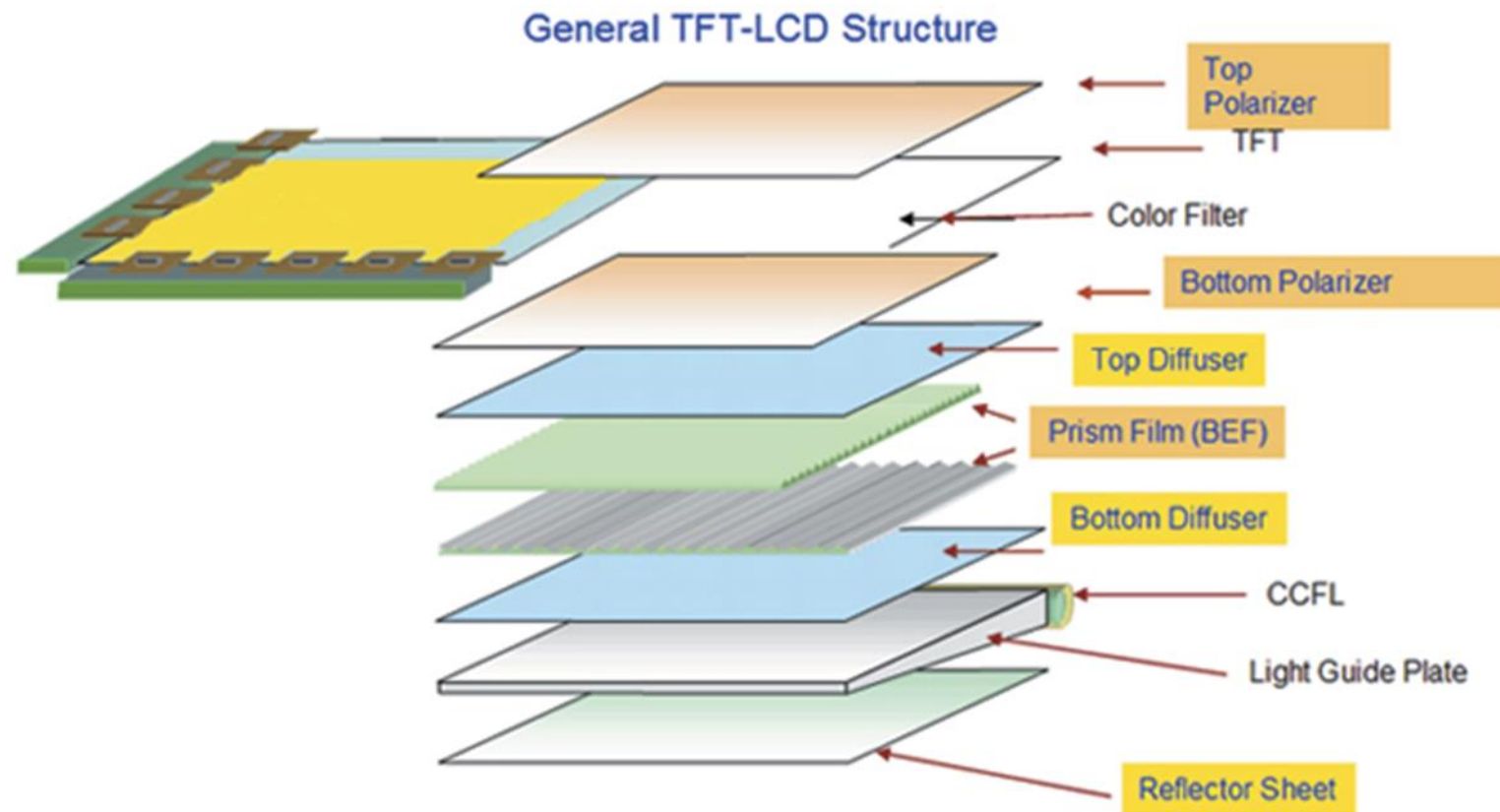
	31 July 2016 Group £'000	31 July 2016 Company £'000	31 July 2015 Group £'000	31 July 2015 Company £'000
Non-current liabilities				
Financial liabilities	—	—	32	—
Other payables	—	450	—	450
Deferred revenue	648	—	—	—
	648	450	32	450
Total liabilities	3,654	450	2,004	450
Net assets	18,763	117,917	29,100	117,480
Capital and reserves				
Issued equity capital	58,057	135,925	58,057	135,925
Share-based payment reserve	2,715	2,715	2,445	2,445
Merger reserve	(1,242)	—	(1,242)	—
Capital redemption reserve	—	4,402	—	4,402
Retained earnings	(40,767)	(25,125)	(30,160)	(25,292)
Total equity	18,763	117,917	29,100	117,480

APPENDICES

TV MARKET SHARE

- Total LCD TV Shipments in 2015 was 226m





- The European Commission has been conducting a lengthy and on-going review of the future of cadmium-based quantum dots
- In spite of Members of the European Parliament voting overwhelmingly in 2015 to ban cadmium-containing quantum dots, the Commission decided to mandate a second report by the Oeko-Institute which was published in June 2016
- The new report recommended that cadmium-containing dots should be banned in lighting applications but allowed in display for a 3 year period
- The recommendation is not legally binding but forms part of an on going review by the Commission, Member States and the European Parliament
- In spite of this uncertainty and as deliberations continue in Europe, display makers worldwide, led by the market leader, Samsung, are choosing cadmium-free quantum dots in their products
- Cadmium's future is limited. It is just a matter of time



Market leader Samsung promote their cadmium free quantum dots TV range



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