Dynasil



Dynasil Corporation of America Annual Meeting of Stockholders

Peter Sulick, Chairman, President and CEO

February 26, 2015

Forward-Looking Statements

The statements made in this presentation which are not statements of historical fact are forward looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements involve known and unknown risks, uncertainties and other factors. The words "potential," "develop," "promising," "believe," "will," "would," "expect," "anticipate," "intend," "estimate," "plan," "may," "likely," "could," and other expressions which are predictions of or indicate future events and trends and which do not constitute historical matters identify forward-looking statements, including without limitation management's discussion of the company's strategic plans. Future results of operations, projections, and expectations, which may relate to this release, involve certain risks and uncertainties that could cause actual results to differ materially from the forward-looking statements. Factors that would cause or contribute to such differences include, but are not limited to, our ability to develop and commercialize the Xcede patch, including obtaining regulatory approvals, the size and growth of the potential markets for our products and our ability to serve those markets, the rate and degree of market acceptance of any of our products, our ability to obtain and maintain intellectual property protection for our products, competition, the loss of key management and technical personnel, the availability of financing sources, as well as the factors detailed in the Company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as well as in the Company's other Securities and Exchange Commission filings.



Corporate Objectives - Ongoing

- 1. Continued growth in Optics revenue through organic growth and opportunistic acquisitions to replace loss of Dynasil Products' revenue and lower Contract Research revenue.
- 2. Conversion of job shop revenue stream across the Optics companies to more predictable, longer term, recurring revenue.
- 3. Develop technology and transfer into commercial development:
 - RMD scintillator technology (CLYC, CsI, Thin Film, SrI, others)
 - Dynasil Biomedical Xcede Patch
- 4. Maintain conformity with loan covenants. Improve overall cost of capital through conversion to lower cost funding where possible.
- 5. Capital allocation to support the above objectives. Continued decentralized operating units with minimal core staff and expense to match operations.
- 6. Continued search for complementary acquisition or merger partners.



Financial Summary FY 2014 vs. 2013

Revenue decreased from \$42.8 million in fiscal 2013 to \$42.3 million in 2014.

- Contract Research revenue remain essentially unchanged at \$21.9 million.
- •Optics revenue increased 26%, from \$15.6 million to \$19.6 million.
- Instruments revenue declined from \$5.1 to \$0.8 million as a result of the sales of the lead paint detector and gamma medical probe businesses.

Net Income from Operations of \$2.1 million versus net loss of \$8.7 million in the prior year.



Fiscal Year 2014 Performance Highlights

Record Revenue at all Optics Operational Units.

<u>Corporate</u> - Completed the sales of the Instruments products in the 1st quarter. Continued operation support for these sold products through mid-year and ultimate operational transfer to buyers by June, 2014.

<u>RMD</u> - Managed through the government shutdown in October of 2013. Consolidation of RMD operations into one site and closing of two sites in Watertown. Maintained \$33M+ backlog.

<u>Optometrics</u> - Secured the L-3 grating contract followed by capital and construction requirements to meet the L-3 production demands. Complete realignment of production floor and relocation of the administrative offices.

EMF - Acquired DichroTec assets in Rochester, NY. Integrated operation into EMF.

<u>Hilger</u> – Continued support for CLYC, CsI and LYSO product development.



Debt





Corporate Objectives - 2015

- 1. Explore options for further external funding of Xcede Technologies for ongoing development of the tissue sealant technology.
- 2. Yield improvements across our Optics companies.
- 3. Continued commercial revenue growth in the double digit range.
- Maintenance of 18+ month backlog in our research operation continued management diligence on matching project revenue with direct and indirect costs.
- 5. Capital support of specific revenue opportunities:
 - Chamber upgrades at both EMF sites
 - LYSO array fabrication and processing at Hilger
 - CLYC production at RMD
- 6. Disposition or shutdown of non-growth or none-core product lines:
 - Sale of SPF Instruments in 1st quarter
 - Possible transfer of hard coat filters from Optometrics to EMF



FY 2015 1st Quarter Financial Summary

Revenue declined to \$9.6 million from \$10.7 million in the 1st quarter of 2014:

•Contract Research revenue declined \$1.2 million due to continuing reductions and slowdowns in government research grant funding.

•Optics revenue increased \$0.8 million as a result of internal revenue growth and the DichroTec acquisition.

•Instruments revenue of \$0.8 million in the first quarter of 2014 eliminated as the XRF and Gamma Probe businesses were sold.



1st Quarter 2015 – Performance Highlights

- Optics revenue of \$4.9 million exceeded Research revenue of \$4.7 million for the first time since RMD acquisition in 2008
- Sale of SPF Instrument at Optometrics (Gain of \$185K)
- Termination of EMF Defined Benefit Pension Plan (Loss of \$355K)
- Capital expenditures to support EMF and Hilger
- ISO 9001 designation received during quarter for Hilger Crystals







RMD Highlights

Dr. Kanai Shah

February 2015

- Celebrating 40th year of RMD!
- Closed FY14 at revenue of \$21.9M
- ♦ Have current backlog of ~\$33 M.
- Won R&D-100 Award on Plastic Scintillators
- CLYC commercial production started at RMD to support OEMs
- Transferring CsI:Tl film technology to EMF
- 6 Patents Awarded and 14 Applications Filed. 56 Total Patents



RMD Crystal Growth





Plastics and Polycrystalline Materials



Fabricated 3" diameter plastic scintillators





45 x 45 x 5.5mm GLuGAG Ceramic



Plastic Scintillator Gamma Ray Spectrometer





2" DPA crystal



LCI: $Li_3Cs_2l_5$:Tl, $Li_3Cs_2l_5$:Eu LNI: $Li_xNa_{1-x}I$:Tl, $Li_xNa_{1-x}I$:Eu

films

Nuclear and X-Ray Imaging





Photonic Structures and Coatings



K2CsSb photocathode compound



RMD in Space





Detectors & Instruments





CLYC/SSPM



Avalanche Photodides







SSPM array

Pipe Scanning Robot



1000

Dynasil



Dynasil Corporation of America

Xcede – February 2015

Xcede Technologies has developed a **game changing** hemostat sealant patch which differentiates itself due to its adhesive capability and ability to be used on high pressure arterial bleeding.





Xcede Technologies' Value Proposition

- Superior technology
- •Large and growing market-\$5.5 Billion
- •Extremely low manufacturing costs
- •Alone in its ability to be used on very high pressure bleeding
- •Predictable and known development pathway
- •Partnership with Mayo Clinic
- Industry with acquisition momentum



Our Solution: The Xcede Patch

Significant research and development has resulted in multiple formations of the patch (version 1.0 and version 2.0) resulting in its present configuration of a preformed 4"x4" two layer patch consisting of a fibrin mesh with proprietary adhesive backing.

Version 2.0

- Hemostat + sealant in one
- High burst strength
- Fast-acting (hold times as short as 15 seconds)
- Resorbable





Current Xcede Technologies' Team

Management

Dave Talen - CEO

- 20 years of marketing, sales and general management experience in the Medical Device Industry.
- Management positions at Scimed Life Systems, Integ, Urologix, Spinetech and Timm Medical

Dr. Daniel Ericson, Ph.D. - CTO

- Inventor, entrepreneur, developed and transferred 7 medical technologies to AveCor, BSC, and Medtronic
- 40+ patents

Kyle Brandy – Senior Scientist

- Biochemistry and engineering background
- 8 years in early stage technology development

Shareholders

Dynasil Biomedical

Mayo Foundation for Education and Research

Board of Directors Vic Schmitt Peter Sulick Sarah Combs Thomas Leonard

Dr. Michael Joyner

Advisory Board

Dr. Sam Asirvatham

Invasive Cardiology, Mayo Clinic

Dr. Steve Cassivi

Thoracic Surgery, Mayo Clinic

Dr. Gianrico Farrugia

- Gastroenterology, Mayo Clinic
- CEO of Mayo Clinic Jacksonville campus





- Launch the Xcede patch first in Europe and then in the US with initial indication for General Surgery in mild to moderate bleeding.
 - First in human clinical trial and pilot data
 - FDA pivotal trials
 - Partner with large, established company for distribution outside the US
 - In house direct sales team for sales inside the US
- Development of products for secondary indications and completion of associated clinical trials.
 - Look to expand indicated use through post market studies



Hemostat/Sealant Markets are Large and Growing

- Broad indication creates robust opportunity to capture both the hemostats and the fibrin and other sealants markets
- \$5.5 billion global combined market in 2015
- CAGR 8.69% 2010 2017



Global Hemostats, Fibrin & Other Sealants

Sources: MedMarket Dilagence, LLC 2012, Worldwide Surgical Sealants Markets 2010-1017



Problem: Every Sealant Out There Has Limitations

There are more than 30 companies worldwide with hemostats or sealants, driving a global market of \$5.5 billion. Yet none of the current products are optimal, as they do not address complex high pressure bleeding, are difficult to prepare or take a long time to reach hemostasis



And For Some Procedures There is Nothing



The Xcede Patch Works Better Everywhere





And Outperforms the Competition

Characteristic	Xcede Patch	Evarrest™	Tachosil™
Surgeon hold time	15 seconds	3 minutes	3 minutes
Stops severe arterial bleeding	XX		
No Thrombin	XX		
Flexible to fit complex wounds	X		
Long shelf life at room temp	X	x	X
Effective on junctional wounds	X		X
High burst resistance	XXX		X
Not dependent on patient coagulation	XXX		
No animal-derived components	X		
High adhesion to tissue	6x	1x	1x
Preparation time	None	None	<1 min



Video

https://youtu.be/4VeuOOKGD9g



Xcede Patch Pre-Clinical Work to Date

Animal Studies

- 65 acute animals;
- 18 survival animals: vascular sealing, intramuscular and subcutaneous implant

Preclinical studies have shown superior performance in many applications:

- Spleen and liver hemostasis
- Partial nephrectomy hemostasis
- Lung sealing
- Intestinal sealing
- Vascular sealing
- Cancellous bone hemostasis
- Topical skin application
- Skin flap anchoring (two-sided patch)



Intellectual Property Portfolio – Protection from Competition

Patent name	Summary	Status	Filing date
Tissue Patch	Composition – components of patch and primer	Allowed	10/4/2012
Systems and Methods for the fabrication of tissue patches	Engineering – steps to make patch and primer	Published	10/4/2012
Systems and kits for the fabrication of tissue patches	Kit - commercial concept of putting elements needed to make patch bedside into a kit	Published	10/4/2012
Tissue patches and associated systems, kits and methods	PCT International filing combining above 3 claim sets	Published	2/1/2013
Adhesive compositions and patches, and associated systems, kits and methods	Patch 2.0 - composition	Provisional	8/8/2014
Minimally Invasive surgery, including vascular closure and associated sealants	Vascular access use	Published	1/31/2014 US and PCT



An Industry with Momentum-Hemostat/Sealant Market is Flush with Acquisition Activity

Company/Product	Partner	Date	Status at acquisition	Acquisition Amount
RecoThrom	The Medicines Company	2012/ 2014	FDA approved	\$105 million collaboration fee, \$10 million option with purchase price based on Net Revenue
Tenaxis Medical	The Medicines Company	2014	FDA approved but not launched, No sales	\$58 upfront (up to \$112 more upon milestones)
Medafor, Arista	Davol	2013	FDA approval Established sales	\$200 million at closing,(\$80 million more upon milestones)
Coviden Duraseal	Integra	2013	FDA approval	\$235 million at closing (\$30 million more upon milestones)
Profibrix, Fibrocaps	The Medicines Company	2013	Pre-CE mark	\$90 million (\$140 million upon milestones)
Neomend, Progel	Davol	2012	FDA approval No sales	\$140 million at closing (\$25 million more upon milestones)
Nerities Corp	Kensey Nash	2011	Patent Only	\$20 million for patent
Synovis Life Tech	Baxter Health Care	2011	Synovis reported \$82.4M in sales for 2011	\$325 Million (note: 3 technologies including Veritias Collagen sealant)
Omrix (renamed Evarrest)	J&J	2009	Not FDA approved at time of acquisition. Approved in 2012	\$438 million.



Xcede Technologies' Funding History





Dynasil's Strategic Objectives for Xcede

•Attract long-term biotech investors to Xcede to fund its future.

•Preserve Dynasil's equity position/investment in Xcede, so that Dynasil's stockholders share in the upside.

•De-consolidate Xcede from Dynasil so Xcede's losses are no longer on Dynasil's financial statements

•Minimize any adverse tax consequences to Dynasil and its shareholders





- Xcede has game changing technology with unique hemostatic and sealant properties
- Superb team and partners
 - Partnership with Mayo Clinic
 - Experienced management
- Large and growing market
- Robust IP position
- Active acquisition landscape in Hemostat and Sealant market



Questions



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