#### UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

#### FORM 8-K

# CURRENT REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of report (Date of earliest event reported): November 18, 2011 (November 15, 2011)

#### **DELCATH SYSTEMS, INC.**

(Exact name of registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation) 001-16133 (Commission File Number) 06-1245881 (IRS Employer Identification Number)

810 Seventh Avenue, 35th Floor, New York, New York, 10019 (Address of principal executive offices, including zip code)

(212) 489-2100 (Registrant's telephone number, including area code)

NONE

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):
[ ] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
[ ] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
[ ] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

#### Item 7.01. Regulation FD Disclosure.

A copy of Delcath Systems, Inc.'s updated investor presentation slides that the Company presented at the Lazard Capital Markets' Eighth Annual Healthcare Conference on Tuesday, November 15, 2011 and intends to use effective immediately is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated into this Item 7.01 by reference.

The information disclosed under this Item 7.01, including Exhibit 99.1 hereto, is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be incorporated by reference into any registration statement or other document pursuant to the Securities Act of 1933, as amended, except as expressly set forth in such filing.

The following exhibit is	filed herewith:
(d) Exhibits.	
Exhibit No.	Description
99.1	Delcath Systems, Inc. Investor Presentation Slides

Item 9.01. Financial Statements and Exhibits.

#### **SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: November 18, 2011

DELCATH SYSTEMS, INC.

By: /s/ Peter J. Graham

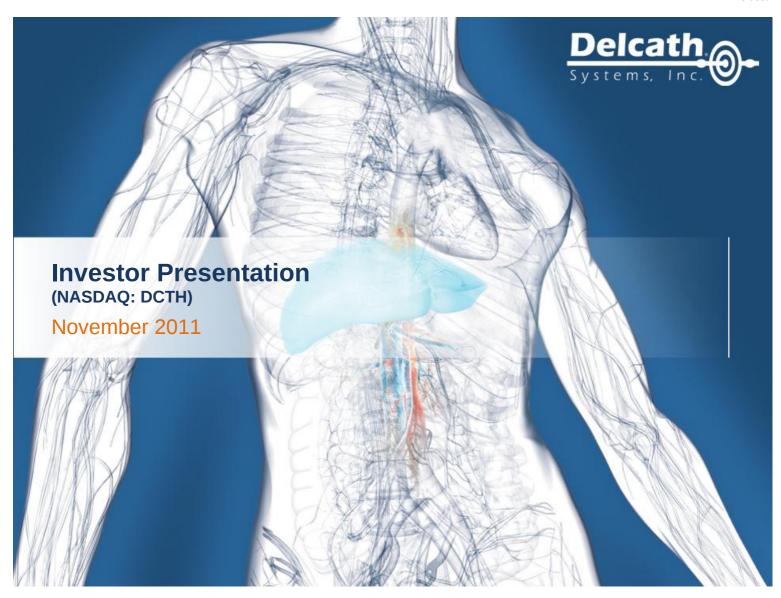
Name: Peter J. Graham

Title: Executive Vice President, General Counsel

#### EXHIBIT INDEX

Exhibit No. Description

99.1 Delcath Systems, Inc. Investor Presentation Slides



## **Forward-looking Statements**

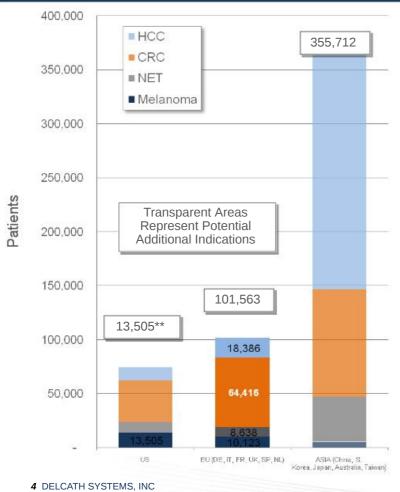
This presentation contains forward-looking statements, within the meaning of federal securities laws, related to future events and future financial performance which include statements about our expectations, beliefs, plans, objectives, intentions, goals, strategies, assumptions and other statements that are not historical facts. Forward-looking statements are subject to known and unknown risks and uncertainties and are based on potentially inaccurate assumptions, which could cause actual results to differ materially from expected results, performance or achievements expressed or implied by statements made herein. Our actual results could differ materially from those anticipated in forwardlooking statements for many reasons, including, but not limited to; uncertainties relating to the time required to build inventory and establish commercial operations in Europe, CE Marking for the Generation Two High Efficiency filter, the timing of our commercial launch in Europe, adoption, use and resulting sales, if any, for the CHEMOSAT system in the EEA, our ability to successfully commercialize the chemosaturation system and the potential of the system as a treatment for patients with cancer in the liver, availability of melphalan in the EEA, acceptability of the Phase III clinical trial data by the FDA, our ability to address the issues raised in the Refusal to File letter received from the FDA and the timing of our re-submission of our NDA, re-submission and acceptance of the Company's NDA by the FDA, approval of the Company's NDA for the treatment of metastatic melanoma to the liver, adoption, use and resulting sales, if any, in the United States, approval of the current or future chemosaturation system for other indications or the same indication in other foreign markets, actions by the FDA or other foreign regulatory agencies, our ability to successfully enter into distribution and strategic partnership agreements in foreign markets and the corresponding revenue associated with such foreign markets, our ability to secure reimbursement for the chemosaturation system, progress of our research and development programs and results of future clinical trials, uncertainties regarding our ability to obtain financial and other resources for any research, development and commercialization activities, overall economic conditions and other factors described in our filings with the Securities and Exchange Commission including the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K and our Reports on Form 10-Q and Form 8-K.

## **Company Highlights**

- Our goal is making established chemotherapeutic drugs work better in target organs
- Initial focus is high dose chemotherapy for improved disease control in the liver
- Successful and highly statistically significant Phase 3 trial results reported
- Encouraging Phase 2 data in additional tumor types
- On verge of commercial launch in Europe
- Filed for CE Marking for Gen Two High Efficiency Filter
- Positioned to address potential \$3.0 billion long term European labeled market opportunity
- Filing applications seeking regulatory approval in multiple foreign markets
- Intend to re-file NDA as soon as possible following January meeting with FDA
- Potential \$675 million US labeled market opportunity
- Issued patents and orphan drug designations create competitive barriers
- Deep and experienced management team

Concentrating the Power of Chemotherapy for Disease Control in the Liver

## **Potential Multi-Billion Dollar Market Opportunity\***



- CE Mark in EU for delivery of melphalan to the liver permits physician use on a broad range of liver cancers
- Potential \$3 Billion long term EU Market Opportunity\*
- Leverage CE Mark to gain regulatory approvals in Asia, America's (EX US), MEA, and Australia
- Potential \$8 Billion Asia/Australia Market Opportunity\*
- Seeking initial indication for metastatic melanoma in U.S., a potential \$670 million \*\* market opportunity
- Significant potential label expansion is possible in U.S. in the future with additional clinical studies

\*TPM Total Potential Market

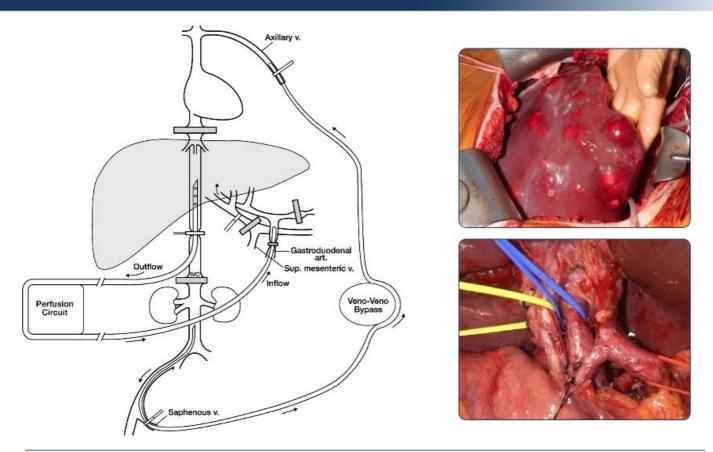
\*\*TPM for initial U.S. labeled indication only

## **Spectrum of Liver Cancer Treatments**

Type of Treatment	Advantages	Disadvantages
Systemic	o Non-invasive o Repeatable	<ul><li>Systemic toxicities</li><li>Limited efficacy in liver</li></ul>
Regional (e.g., IHP)	o Therapeutic effect o Targeted	<ul><li>Invasive/limited repeatability</li><li>Multiple treatments are required</li></ul>
Focal	o Isolated removal of tumor	<ul><li>90% unresectable</li><li>Invasive and/or limited repeatability</li></ul>

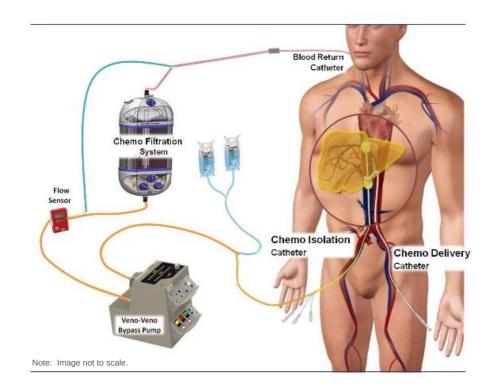
**Existing Treatments Involve Significant Limitations** 

# **Open Surgical IHP - Where It All Began**



Isolated Hepatic Perfusion: Proof of Concept, but High Morbidity and Non-Repeatable

## **The Delcath Chemosaturation System**



#### **Three Steps of Chemosaturation**

- 1) ISOLATION
- 2) SATURATION
- 3) FILTRATION

#### **Advantages of Chemosaturation**

- Improved disease control in the liver
- Treats entire liver
- Allows for ~ 100x effective dose escalation of drug agents at tumor site
- Controls systemic toxicities
- Repeatable
- Complements systemic therapy

Minimally Invasive, Repeatable Liver Procedure That Could Complement Systemic Therapy

## **Melphalan Dosing & Background**

Туре	Dosing (mg/kg)
Multiple Myeloma (label)	0.25
Chemoembolization	0.62
Surgical Isolated Hepatic Perfusion (IHP)	1.50
Myeloablation	2.50-3.50
Chemosaturation (PHP)	3.00

- Well understood, dose dependant, tumor preferential, alkylating cytotoxic agent that demonstrates no hepatic toxicity
- Manageable systemic toxicities associated with Neutropenia and Cytopenia
- Drug dosing over **10x higher** than FDA-approved dose via systemic IV chemotherapy
- Dose delivered to tumor is approximately <u>100x higher</u> than that of systemic IV chemotherapy

An established Drug For Liver Cancer Therapy

### **What Chemosaturation Offers**

#### **Patients:**

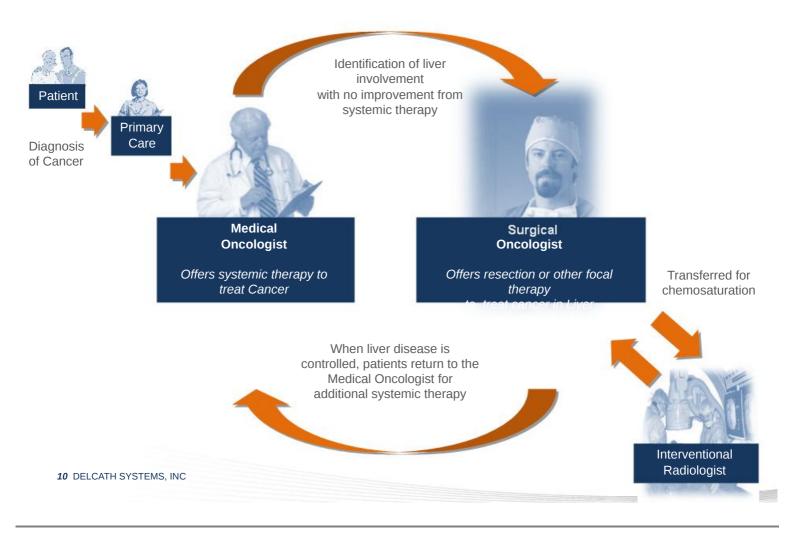
- o Significant improvement in disease control in the liver compared to standard of care in patients with unresectable hepatic melanoma mets
- o Manageable systemic toxicities
- o Time, so that primary cancers can continue to be treated

#### **Physicians:**

- o Novel, targeted liver directed treatment to <u>complement</u> other cancer therapies
- o Repeatable, percutaneous procedure
- o Ability to treat the entire liver, including both visible and micro tumors
- o Ability to continue treating patients for extra-hepatic disease

Attractive Clinical and Economic Proposition For Patient and Providers

## **Current Patient Referral Path**



## **Summary of Updated Phase III Results\***

- Primary endpoint exceeded, p value = 0.0001, hazard ratio of .35
  - o Treatment arm shows 5x median hepatic progression free (hPFS) survival compared to control arm
  - o CS/PHP median hPFS of 8.0 months compared to 1.6 months for BAC
  - o 86% overall clinical benefit (CR + PR + SD)

#### · Secondary endpoints support results

- OS Secondary endpoint No difference in Kaplan-Meier curves due to cross over treatment response (9.8 months compared to 9.9 months)
- o CS/PHP median overall PFS of 6.7 months vs 1.6 months for BAC

#### OS exploratory cohort analysis favorable

- o Median survival of 9.8 months for treatment arm compared to 4.1 months non-crossover BAC patients
- o Median survival of 11.4 months for all patients treated with melphalan, including crossover
- o 13 treatment patients (5 treatment, 8 crossover) and 2 BAC patients still alive at 6/30/2011

#### Safety profile - expected and consistent with currently approved labeling for melphalan

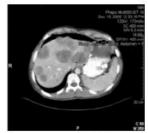
- o Treatment related Deaths: 3/40 patients (7.5%) 3/116 procedures (2.6%)
- o Neutropenic Sepsis (n=2) 5%, Hepatic Failure (n=1) 2.5% (95% tumor burden)

\* Presented at 2011 ECCO/ESMO Annual Meeting

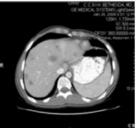
Trial Outcomes Favorable and Consistent with Special Protocol Assessment

# Phase 2 NCI Trial - Metastatic Neuroendocrine (mNET) Cohort

Phase 2 mNET Tumor Cohort (n=24	1)*
	Number (n)
Primary Tumor Histology	
Carcinoid	4
Pancreatic Islet Cell	20
Response	
Not Evaluable (Toxicity, Incomplete Treatment, Orthotopic Liver Transplantation)	4
Progressive Disease	2
Minor Response / Stable Disease	4
Partial Response (30.0% - 99.0% Tumor Reduction)	13
Complete Response (No Evidence of Disease)	_1_
Objective Tumor Response	14
Objective Tumor Response Rate	70%
	Duration (months)
Median Hepatic PFS	15.5
Overall Survival After CS	30.4



Pre-CS (Baseline)



Post-CS #1 (+6 Weeks)



Post-CS #2 (+4 Months)

Promising Initial Response Rate in Attractive Market

<sup>\*</sup>Presentation at ECCO/ESMO 2011 annual meeting

## Gen Two High Efficiency (HE) Filter

#### STATUS:

- o Melphalan consistent first pass removal efficiency of 98% or better in both *in vitro* and preclinical, GLP animal studies
- o New trade secret manufacturing process for filter medium
- o Accelerated development timeline
- o Filed for CE marking for Gen Two HE Filter and expect to receive in Q1 2012
- o Potential EU commercial launch in Q1 2012 with Gen Two HE Filter, assuming CE Mark received
- o Planned Expanded Access Program (EAP) with use of Gen Two product with HE Filter

#### **EXPECTED BENEFITS:**

- o Reduced systemic toxicity for improved safety profile
- o Concomitant Therapy (complements systemic therapies)
- o Increased utility in a wider range of patients

Gen Two HE Filter has the Potential to Enhance Procedure and Market Opportunity

## **Product Development Pipeline**

## E

#### **Initial Opportunity**

- All liver cancers melphalan
- · Class III device
- 3<sup>rd</sup> party melphalan
- Additional data generation in HCC,mCRC and mNET

#### Near Term (< 5 years)

- Proprietary melphalan drug approval
- · Apparatus improvements

#### Intermediate Term (> 5 years)

- Additional drugs
- Other organs

U S

- · Melanoma liver mets
- Proprietary drug-melphalan & apparatus
- Broaden label
- Other liver cancers melphalan
- Apparatus improvements
- Additional drugs
- · Other organs

ASIA

- Leverage CE Mark approval
- HCC clinical trial
- 3<sup>rd</sup> party melphalan
- Primary liver cancer (HCC)
- Drug-melphalan & apparatus
- Broaden label
- Other liver cancers melphalan
- Additional drugs
- Other organs

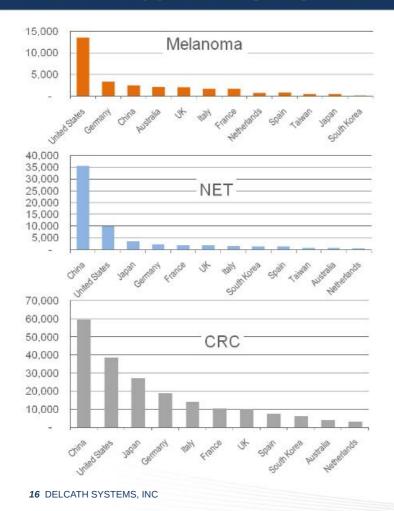
#### Robust Development Program Planned

## **Clinical Data Development Goals**

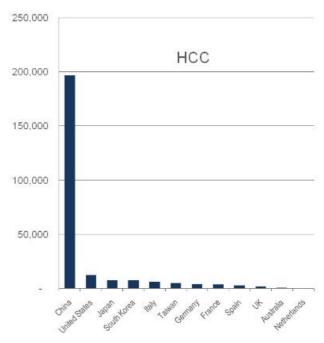
- Generate data to establish Chemosaturation as the Standard Of Care (SOC) for disease control in the liver.
- Utilize Gen Two High Efficiency (HE) Filter
  - o Concomitant therapy to complement standard of care treatments
  - o Increase safety of procedure
- Potential clinical trials to expand data:
  - o HCC: 1L Phase 2 randomized Chemosaturation vs. Sorafenib;
    - 2L Phase 3 randomized Chemosaturation vs. Best Supportive Care for Sorafenib failure
  - o mCRC: 2L Phase 2 signal seeking/safety Chemosaturation
  - US Expanded Access Program (EAP) (for Melanoma) with use of Gen Two product with HE Filter

**Exciting Opportunities for New Clinical Data** 

## Market Opportunity\* by Disease (patients)



- US largest opportunity for Melanoma
- · China- largest opportunity for HCC
- CRC largest opportunity worldwide



\*TPM Total Potential Market

### **European Markets**

- CE Marking on CHEMOSAT device covers 30 countries in the European Economic Area (EEA)
- Indication is for "intra-arterial delivery of chemotherapeutic agent (melphalan hydrochloride) to the liver"
- Hospitals procure melphalan separately from existing sources
- Melphalan for injection approved in 14 countries and commercially available
- Estimate potentially applicable to ~100,000 patients annually
- 6 top countries (DE, UK, FR, IT, SP, NL) represent ~70% of total patient population
- Intend to target these 6 countries plus Ireland ("Target Countries")

Large European Market Opportunity Concentrated in Target Countries

## **European Commercialization Plans**

Establish EU Operations (2011) Identify Initial Training Centers and Test Market (2011-2012)

Commercial Launch (2012)

**Objective:** Commercial adoption

#### **Major Assumptions:**

- Gen Two HE filter available for commercial launch
- Focus efforts in Target Countries
- 6-8 Initial Training centers
- Initiate test market in 2012 for 6 months to validate assumptions and finalize model
- Full commercialization in 2H 2012

#### **Tactics & Execution:**

- Market to medical oncologists via contract organization Medical Science Liaison (MSL)
- Sell to hospital-based interventional radiologists and surgeons with combination of direct sales and distributors
- Establish European patient education & awareness programs (PR, website)
- Leverage existing new technology reimbursement channels, while pursuing permanent procedure reimbursement via Health Technology Assessment (HTA)
- · Clinical trials to generate additional data for HCC and CRC
- Planned Expanded Access Program (EAP) with use of Gen Two product with HE Filter

Strategy and Tactics to Address All Key Constituents

## **European Marketing Considerations**

#### Reimbursement:

- No centralized EEA device reimbursement body regional and national systems
- Devices typically reimbursed under DRG as part of a procedure
- o Immediate reimbursement plans:
  - Utilize existing codes where permitted until permanent reimbursement established (e.g. Italy)
  - Apply for funding under new technology programs (e.g. NUB in Germany and HAS in France)
  - · Other oncology therapies currently reimbursed, despite lacking randomized data
- o Retained reimbursement experts to obtain new procedure specific coding and payment
- Developing Health Technology Assessment (HTA)
- o Focused on highlighting clinical value proposition and demonstrating cost effectiveness

#### Melphalan:

- o CHEMOSAT system approved in the EEA for the intra-arterial administration of melphalan to the liver
- o Physicians will continue to procure melphalan independently and use in their professional opinion
- o Clinical experience in EEA and publications support use of melphalan for disease control in the liver

#### **Clinical Data:**

- o Delcath Phase 3 and Phase 2 data supplements extensive surgical IHP data with melphalan
- Expect to initiate additional studies with Standard of Care (SOC) in 2012 with availability of HE filter in HCC and metastatic CRC
- Marketing to medical oncologists will be data driven

Required Elements In Place To Support Commercial Launch

## **European Interim New Technology Reimbursement Programs**



NUB (temporary reimbursement) application in place

Hospitals need to apply directly

2010, out of 13865 requests 7480 representing 74 technologies were given temporary reimbursement status



Extra Tariff Funding negotiated at regional level

Italy is one of the most active countries seeking fast track funding schemes for innovative technology



Extra funding made available for innovative technologies

Premiums to be negotiated with the technology assessment agency for temporary reimbursement



Pass through payments negotiated directly with individual trusts

This funding can be applied for up to 2 years



Possibility of agreements individual hospitals.

Financing of healthcare budgets set at regional level with differences on reimbursement

Implementation of shared risk agreements



Interim New Technology Payment Programs Already Exist in Major European Markets

## **Market by Disease - EEA Device Only**

	Germany (Direct)	UK (Direct)	France (Indirect)	Italy (Indirect)	Spain (Indirect)	Netherlands (Direct)	Total Potential (patients)	Potential Market (\$ millions) <sup>1,2,3</sup>
			Total Pote	ential Mark	ket #Patie	nts		
Ocular Melanoma	403	296	294	284	197	79	1,553	\$46.6
Cutaneous Melanoma	2,834	1,735	1,314	1,398	628	662	8,571	\$257.1
CRC	18,978	10,155	10,490	13,952	7,694	3,151	64,420	\$1,932.6
HCC (Primary)	3,941	1,734	3,645	6,253	2,616	197	18,386	\$551.6
NET	2,168	1,624	1,645	1,579	1,185	438	8,639	\$259.2
TOTAL	25,087	13,513	15,780	21,784	11,495	3,786	91,445	\$3,047.1

<sup>1.</sup> Assumes 2.5 treatments per patient

Europe is Large Potential Market Opportunity for Device Only

<sup>2.</sup> Assumes ASP of \$12K (device only)

**<sup>3.</sup>** Assumes mix of direct sales and distributors

## **U.S. FDA Regulatory Status**

- On February 22, 2011, received Refusal to File (RTF) letter from the FDA
  - § Manufacturing plant inspection timing
  - § Product and sterilization validation
  - § Additional statistical analysis clarification
  - § Additional safety data
  - o RTF stated that safety information provided was insufficient to allow FDA to accept our application and review the overall risk/benefit profile
  - FDA & SPA approved CRF's did not collect all hospitalization data in the patient records in an effective manner
  - o Follow-up meeting with FDA held in April 2011 to review proposed plan of action which includes:
  - o No additional studies or generation of new data requested
- Pre-NDA Submission meeting with FDA scheduled for mid-January 2012
- Continued progress in collecting, entering and monitoring patient safety data from our clinical trial sites
  - o Data migration to new database
  - o Created new Case Report Form (CRF)
  - o Data Entry and monitoring ongoing

Intend to Submit Revised NDA Following January Meeting With FDA

# **Market by Disease\* - USA**

Liver Metastasis	Potential Market # Patients	Potential Market # Procedures (Avg 2.5/patient)	Potential Market (\$MM) \$20K ASP **
Ocular Melanoma	1,622	4,055	\$81.1
Cutaneous Melanoma	11,883	29,708	\$594.2
TOTAL MELANOMA (Initial Expected Label)	13,505	33,763	\$675.3
CRC	38,423	96,057	\$1,921.1
HCC (Primary)	12,386	30,964	\$619.3
NET	9,986	24,965	\$499.3
TOTAL OTHER (Potential Label Expansion)	60,794	151,985	\$3,039.7

<sup>\*</sup>TPM Total Potential Market

<sup>\*\*</sup> Estimated ASP

## **U.S. Commercialization Strategy**

- · Initial focus on leading cancer centers and referring community hospitals
- Market to Medical Oncologists via CSO
- Direct Strategy to sell to Interventional Radiologists and Surgeons: 12 Sales & Medical Science Liaison territories ultimately expanding to as many as 60 territories as revenues ramp
- 5 Clinical Specialists initially to support site initiation and training
- Utilize top centers from Phase III trial as Centers of Excellence for training and support

Direct Sales Model Supplemented With CSO Detailing Program

## **U.S. Reimbursement Strategy**

**Strategy:** intend to seek chemosaturation specific codes based upon value proposition relative to other cancer therapies

- o Physician:
  - Applied for for CPT Category III code
  - Convert the Category III code to Category I following FDA approval
- o Hospital:
  - Apply for new ICD-9/10 procedure code to capture full procedure of hepatic isolation and chemosaturation
  - Request new DRG based on costs above those of existing DRGs and clinical dissimilarity to other hepatic procedures in current DRGs

Pursuing New Specific Codes For Chemosaturation Procedure

## Strategy For Asia, Ex US America's, MEA and Australia

- Intend to leverage CE Mark to obtain reciprocal regulatory approvals for our Delcath Hepatic CHEMOSAT System
- Utilize existing 3<sup>rd</sup> party melphalan available to physicians
- Seek to secure strategic partners and specialty distributors

Combination of Direct Sales, Strategic Partnerships & Specialty Distributors

## **International Regulatory Status Update**

- Leveraging the CE Mark for CHEMOSAT
- Completed product notification process for CHEMOSAT system with the Medicines and Medical Device Safety Authority in New Zealand
- Submitted applications to obtain regulatory approval for CHEMOSAT in Australia, Singapore and Hong Kong
- In the future intend to submit applications to obtain regulatory approval in certain key markets in Asia including Japan, Korea and Taiwan, as well as Canada, Latin America including Brazil and Argentina and the Middle East

# Market by Disease - Australia/Asia Initial Target Markets (China, Japan, S. Korea, Taiwan, Australia)

China

S. Korea

	(Drug)	(Drug)	(Device)	(Drug)	(Device)	Potential (patients)	Market 1,2,3,4
		Total	Potential Mar	ket #Patients			
HCC (Primary)	197,082	7,486	7,625	4,945	604	217,742	\$4,899.2
			Other				
CRC	59,644	6,219	27,396	2,762	3,891	99,912	\$2,248.0
NET	35,503	1,275	3,355	608	562	41,303	\$929.3
Ocular Melanoma	1,760	66	175	31	96	2,128	\$47.9
Cutaneous Melanoma	667	74	238	429	1,996	3,404	\$76.6
OTHER TOTAL	292,229	14,980	38,376	8,315	5,057	358,957	\$8,201.0

Japan

Taiwan

Total

**Potential** 

**Australia** 

41049salanes sales by distributors

Asia Represents Potential \$8.2 Billion Market Opportunity

<sup>1.</sup> Assumes 2.5 treatments per patient

<sup>2.</sup> Assumes ASP of \$9K

<sup>3.</sup> Assumes mix of systems with and without Delcath branded

## **Intellectual Property**

#### **Patent Protection**

- 7 issued U.S. patents, 10 foreign patents issued and 4 pending
- Primary device patent set to expire August 2016
- Up to 5 years of patent extension post FDA approval

#### **Trade Secret Protection**

Developed High Efficiency (HE) filter media via new manufacturing processes

#### **FDA Protection**

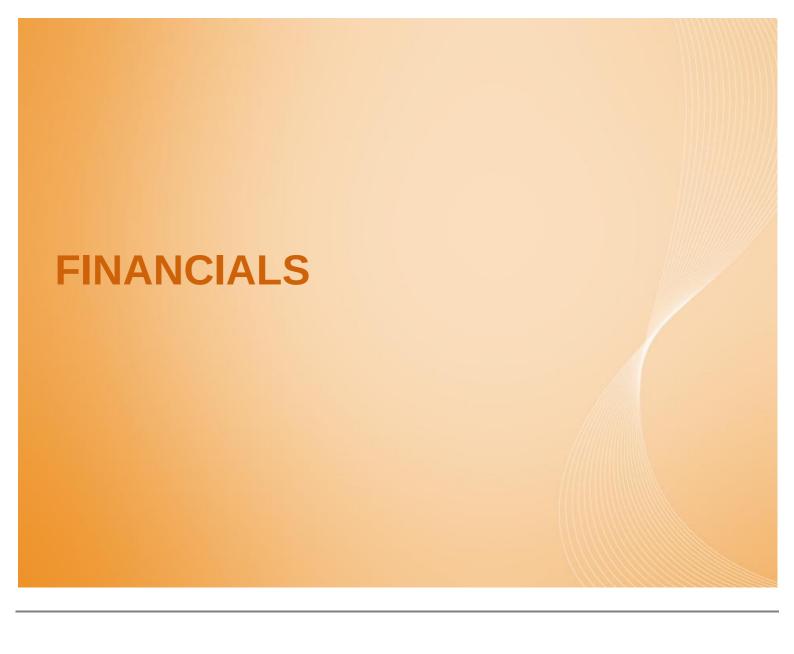
- Orphan Drug Designation granted for melphalan in the treatment of ocular melanoma, cutaneous melanoma and metastatic neuroendocrine tumors, as well as for doxorubicin in the treatment of HCC
  - o Provides 7 years of marketing exclusivity post FDA approval
- Additional Orphan Drug applications to be filed for other drugs and indications, including melphalan for HCC and CRC

Multiple Levels of Protection

## **Deep and Experienced Management Team**

Executive	Title	Prior Affiliation(s)	Years of Experience
Eamonn Hobbs	President and CEO	AngioDynamics, E-Z-EM	30
Graham Miao, Ph.D	EVP & CFO	Dun & Bradstreet, Pagoda Pharma, Schering-Plough, Pharmacia	21
David McDonald	EVP Business Development	AngioDynamics, RBC Capital Markets	28
Krishna Kandarpa, M.D., Ph.D.	CMO and EVP, R&D	Harvard, MIT, Cornell, UMass	31
Agustin Gago	EVP, Global Sales & Marketing	AngioDynamics, E-Z-EM	29
Peter Graham, J.D.	EVP & General Counsel	Bracco, E-Z-EM	16
John Purpura	EVP, Regulatory Affairs & Quality Assurance	E-Z-EM, Sanofi-Aventis	27
Harold Mapes	EVP, Global Operations	AngioDynamics, Mallinkrodt	25
Bill Appling	SVP Operations & Medical Device R&D	AngioDynamics	25
Dan Johnston, Ph.D.	VP, Pharma R&D	Pfizer, Wyeth	10

Significant Combination Product Approval and Commercialization Experience



## **Financial Summary**

### **Financial & Operating Overview**

Follow On Offerings: Raised ~ \$94 million since November 2009

Burn Rate: \$3.4 million average per month Q3 2011

Cash: \$44.7 million at September 30, 2011

Debt: None

Shares Out: ~48 million (~55 million fully diluted\*)

Institutional Ownership: ~23% at September 30, 2011

Market Capitalization: ~\$160 million as of September 30, 2011

Avg. Daily Volume (3 months) ~580,000

As of September 30th, 2011 fully diluted includes an additional 4.2 million options at \$5.04, 2.5 million warrants at \$3.51, and 210,422 unvested restricted shares.

Balance Sheet Strengthened Significantly in Past Two Years To Support Growth Activities

## **Company Highlights**

- Our goal is making established chemotherapeutic drugs work better in target organs
- Initial focus is high dose chemotherapy for improved disease control in the liver
- Successful and highly statistically significant Phase 3 trial results reported
- Encouraging Phase 2 data in additional tumor types
- On verge of commercial launch in Europe
- Filed for CE Marking for Gen Two High Efficiency Filter
- Positioned to address potential \$3.0 billion long term European labeled market opportunity
- Filing applications seeking regulatory approval in multiple foreign markets
- Intend to re-file NDA as soon as possible following January meeting with FDA
- Potential \$675 million US labeled market opportunity
- Issued patents and orphan drug designations create competitive barriers
- Deep and experienced management team

Concentrating the Power of Chemotherapy for Disease Control in the Liver

## **Appendix I. - Delcath Sources for Market Estimates**

American Cancer Society. Cancer Facts & Figures 2010. Atlanta: American Cancer Society; 2010.

Alexander, Richard H., David L. Bartlett, and Steven K. Libutti. "Current Status of Isolated Hepatic Perfusion With or Without Tumor Necrosis Factor for the Treatment of Unresectable Cancers Confined to the Liver." The Oncologist 5 (2000): 416-24.

Blake, Simon P., Karen Weisinger, Michael B. Atkins, and Vassilios Raptopoulos. "Liver Metastases from Melanoma: Detection with Multiphasic Contrast Enhanced CT." Radiology 213 (1999): 92-96. Print

Ferlay J, Shin HR, Bray F, Forman D, Mathers C and Parkin DM.
GLOBOCAN 2008, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10 [Internet].
Lyon, France: International Agency for Research on Cancer; 2010. Available from: http://globocan.iarc.fr

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# Appendix II. - Phase 3 Pivotal Trial Details

## **Phase III Clinical Trial Design**

#### Randomized to CS 92 patients: ocular or cutaneous melanoma

Cross-

#### CS/Melphalan

Treat every 4 weeks x 4 rounds (responders can receive up to 6 rounds)

#### Best Alternative Care (BAC)

Investigator and patient decision (any and all treatments)

#### **Primary Trial Endpoint**

- Statistically significant difference in Hepatic Progression Free Survival ("hPFS"): p < 0.05
- Over 80% of Oncologic drugs approved by FDA between 2005 - 2007 on endpoints other than overall survival

#### **Secondary Trial Endpoints**

- Hepatic response and duration of hepatic response
- Overall response and duration of overall response
- Overall Survival Diluted by Cross Over
- SAP calls for analysis of various patient cohorts

#### **Hepatic Response - Metastatic Melanoma**

Modeled hPFS for Trial Success:

7.73 months (CS) VS.

4 months (BAC)



Pre-CS (Baseline)





Fully Powered, 93 Patient, Randomized, Multi-Center NCI Led Study

### **ASCO 2010 Presentation of Phase 3 Clinical Trial Results**

- Trial results <u>exceed primary endpoint expectations</u>; p value = 0.001
- Treatment arm shows 5x median hPFS compared to control arm
- CS/PHP median hPFS of 245 days compared to 49 days for BAC
- Hazard Ratio = .301
- Patients failed prior therapies (radiation, chemo, immuno, image guided local)
- 90% Ocular, 10% Cutaneous No difference in response
- Overall PFS 186 vs. 46 days for BAC
- 34% response rate for CS/PHP compared to 2% for BAC
- 52% stable disease for CS/PHP compared to 27% for BAC
- 86% overall clinical benefit (CR + PR + SD)

Strong Clinical Trial Results

### **Summary of Phase III Results**

- Primary endpoint exceeded, p value = 0.001, hazard ratio of .301
  - Treatment arm shows 5x median hepatic progression free (hPFS) survival compared to control arm
  - o CS/PHP median hPFS of 245 days compared to 49 days for BAC
  - o 86% overall clinical benefit (CR + PR + SD)
- Secondary endpoints support results
  - OS Secondary endpoint No difference in Kaplan-Meier curves due to cross over treatment response (298 days compared to 301 days)
- OS cohort analysis favorable
  - o Median survival of 298 days for treatment arm compared to 124 in non-crossover BAC patients
  - o 14 treatment patients (6 treatment, 8 crossover) and 3 BAC patients still alive at 12/31/2010
- Safety profile expected and consistent with currently approved labeling for melphalan
  - o Treatment related Deaths: 3/40 patients (7.5%) 3/116 procedures (2.6%)
  - o Neutropenic Sepsis (n=2) 5%, Hepatic Failure (n=1) 2.5% (95% tumor burden)

Trial Outcomes Favorable and Consistent with Special Protocol Assessment

# Phase I/II NCI Trials - Neuroendocrine

Neuroendocrine Tumor Trial Results (n=23)*					
	Number (n)				
Primary Tumor Histology					
Carcinoid	3				
Pancreatic Islet Cell	17				
Response					
Not Evaluable (Toxicity, Incomplete Treatment, Orthotopic Liver Transplantation)	4				
Progressive Disease	1				
Minor Response / Stable Disease	3				
Partial Response (30.0% - 99.0% Tumor Reduction)	13				
Complete Response (No Evidence of Disease)	2				
Objective Tumor Response	15				
Objective Tumor Response Rate	79%				
	Duration (months)				
Median Hepatic PFS	39				
Overall Survival After CS	40				



Pre-CS (Baseline)



Post-CS #1 (+6 Weeks)



Post-CS #2 (+4 Months)

#### Promising Initial Response Rate in Attractive Market

<sup>\*</sup>Presentation at American Hepato-Pancreo-Biliary Association 2008 annual meeting

### **ASCO 2010 Presentation of Phase 3 Clinical Trial (cont.)**

- Majority of BAC patients crossed over and obtained similar response from treatment
- Total 93 patient trial 10 months median OS vs. 4 months expected¹ (due to cross over provision, most patients received PHP/CS treatment)
- OS cohort analysis all positive trends
  - a) Median survival of 298 days for treatment arm compared to 124 in non-crossover BAC patients
  - b) Median survival of 398 days for BAC Cross Over patients vs. 124 non-cross over BAC patients
- OS Secondary endpoint No difference in Kaplan-Meier curves(due to cross over treatment response)
- Safety profile as expected in line with current FDA approved labeling for IV administration of Melphalan and Phase I CS/PHP study results
  - o Treatment related Deaths: 3/40 patients (7.5%) 3/116 procedures (2.6%)
  - o Neutropenic Sepsis (n=2) 5%, Hepatic Failure (n=1) 2.5% (95% tumor burden)
  - o Current approved labeling for Melphalan 3% to 10% mortality rate.

1. Source: Unger et. al. Cancer 2001;91: 1148

**Encouraging Survival Data With Expected Safety Profile** 

