# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 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): March 14, 2019

## **CELSION CORPORATION**

(Exact name of registrant as specified in its Charter)

Delaware		001-15911	52-1256615				
(State or other jurisdiction		(Commission	(IRS Employer				
	of incorporation)	File Number)	Identification No.)				
997 Lenox Drive, Suite 100, Lawrenceville, NJ 08648-2311							
	(Address of principal executive offices)		(Zip Code)				
	(609) 896-9100 (Registrant's telephone number, including area code)						
		N/A					
	(Former name	e or former address, if changed since l	ast 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 unde	er 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 Ru	ule 14d-2(b) under the Exchange Act (17	7 CFR 240.14d-2(b))				
[]	Pre-commencement communications pursuant to Ru	ule 13e-4(c) under the Exchange Act (17	CFR 240.13e-4(c))				
	Indicate by check mark whether the registrant is an emerging growth company as defined in as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).						
Emerg	ging growth company [ ]						
	f an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or evised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]						

#### Item 8.01. Other Events.

Celsion Corporation (the "Company") will be making corporate presentations over the next several weeks, including a presentation at the Oppenheimer & Co. 29<sup>th</sup> Annual Healthcare Conference on Tuesday, March 19, 2019, in New York, NY. In connection with the presentations, the Company intends to discuss the slide presentation attached as Exhibit 99.1 hereto, which is incorporated herein by reference.

The slide presentation attached as Exhibit 99.1 to this Current Report on Form 8-K includes "safe harbor" language pursuant to the Private Securities Litigation Reform Act of 1995, as amended, indicating that certain statements contained in the slide presentation or in the press release are "forward-looking" rather than historical.

The Company undertakes no duty or obligation to update or revise information included in this Current Report on Form 8-K or Exhibit 99.1 hereto.

#### Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Celsion Corporate Presentation dated March 2019

#### **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.

#### **CELSION CORPORATION**

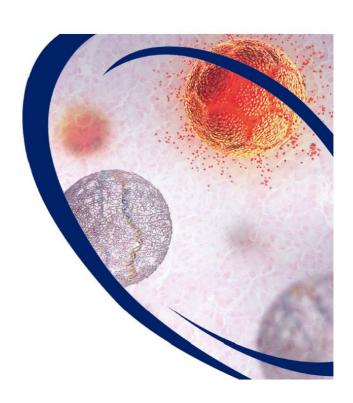
Dated: March 14, 2019 By: /s/ Jeffrey W. Church

Jeffrey W. Church

Executive Vice President and Chief Financial Officer



Corporate Presentation
March 2019



#### Safe Harbor Statement

This presentation and any statements made for and during any presentation or meeting contain forward-looking statements related to Celsion Corporation ("Celsion") under the safe harbor provisions of Section 21E of the Private Securities Litigation Reform Act of 1995 and are subject to risks and uncertainties that could cause actual results to differ materially from those projected.

These statements may be identified by the use of forward-looking words such as "anticipate," "planned," "believe," "forecast," "estimated," "expected," and "intend," among others. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking statements. Such factors include, among other things, unforeseen changes in the course of research and development activities and in clinical trials; possible changes in cost, timing and progress of development, preclinical studies, clinical trials and regulatory submissions; Celsion's ability to obtain and maintain regulatory approval of any of its product candidates; possible changes in capital structure, financial condition, future working capital needs and other financial items; changes in approaches to medical treatment; introduction of new products by others; success or failure of our current or future collaboration arrangements, risks and uncertainties associated with possible acquisitions of other technologies, assets, or businesses; the ability to obtain additional funds for operations; the ability to obtain and maintain intellectual property protection for technologies and product candidates and the ability to operate the business without infringing the intellectual property rights of others; the reliance on third parties to conduct preclinical studies or clinical trials; the rate and degree of market acceptance of any approved product candidates; possible actions by customers, suppliers, strategic partners, potential strategic partners, competitors, and regulatory authorities; compliance with listing standards of the NASDAQ Capital Market; and those risks listed under "Risk Factors" as set forth in Celsion's most recent periodic reports filed with the Securities and Exchange Commission, including Celsion's Form 10-K for the year ended December 31, 2017.

While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Forward-looking statements included herein are made as of the date hereof, and Celsion does not undertake any obligation to update publicly such statements to reflect subsequent events or circumstances except as required by law.



# 2019: A Year of Opportunity



Two distinct and innovative technology platforms at clinical stage

Billion dollar commercial opportunities each in HCC/Primary Liver and Ovarian Cancer where the need for effective treatments remains



OPTIMA Study, a global Phase III trial in HCC/Primary Liver Cancer, with 1st interim data expected in second half of 2019

OVATION 2 Study, a Phase I/II trial in Ovarian Cancer with Phase I data expected in second half of 2019



\$30 million in cash provides 2-year operating runway

#### Clean Cap Structure

- Less than 20 million shares outstanding
- Minimal warrant overhang



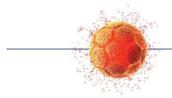
# Two Novel Nanoparticle-Based Technology Platforms

Both Poised for Success

#### LTSL

Lysolipid Thermally Sensitive Liposomes for Delivery of Known Chemotherapeutics





Orphan Drug Designation: US and EU Fast Track for HCC in US

#### **TheraPlas**

Non-Viral Vector Delivers DNA Plasmids Coded for Therapeutic Proteins

# GEN-1 Immunotherapy Localized Interleukin-12 (IL-12) Immunotherapy



Orphan Drug Designation: US EU Filing in Progress



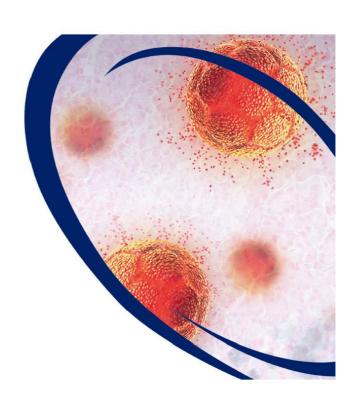
# Celsion Pipeline

Focused Drug Development Strategy

PRODUCT	INDICATION	PRECLINICAL	PHASE 1/2	PHASE 3
ThermoDox® OPTIMA STUDY	PRIMARY LIVER CANCER			Enrollment Complete
GEN-1 OVATION 2 Study	OVARIAN CANCER		Enrolling Phase I/II	
ThermoDox®	NON-MUSCLE INVASIVE BLADDER CANCER	Efficacy/Safety/ Toxicology Complete	•	
GEN-1	GLIOBLASTOMA	Efficacy/Safety/ Toxicology Complete		







## First Target: Hepatocellular Carcinoma

High Global Incidence With High Mortality



# 4<sup>th</sup> Highest Mortality of all Cancers

Median survival from time of diagnosis	<3 years <sup>2</sup>
5-year survival rate	<10%
Early- and Intermediate-stage patients eligible for curative surgery	< 20%²

Few curative treatment options in early- and intermediate-stage patients

Addressable Market Opportunity for ThermoDox: > 200K Patients across US, EU, and Asia\*

1 Incidence Data Source: GLOBOCAN 2018; http://gco.larc.fr/
2 J Hepatol. 2012; 56: 908-943.
\*Based on study design, HCC staging criteria, and regional market dynamics.



# Locoregional Therapies (LRT) - A Mainstay Treatment for Unresectable Patients

Multiple Procedures; Limited Long-term Effect

#### Radiofrequency Ablation: A dominant treatment

- Effectiveness decreases with increasing tumor size
- Local recurrence rates > 50% for lesions > 3 cm

#### Most other LRTs require:

- Multiple procedures
- Hospitalization
- High treatment costs

#### Other therapies include:



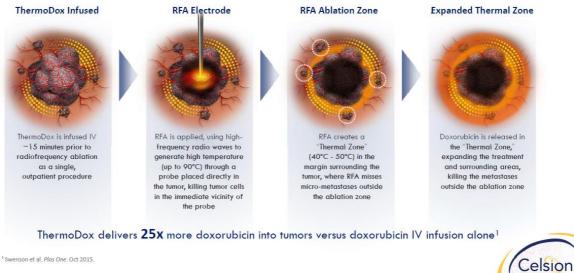






8 <sup>1</sup> Journal of Hepatology 2012 vol. 56 | 908-943

#### ThermoDox + Radiofrequency Ablation (RFA) Expands the Treatment Zone Benefits larger, unresectable tumors



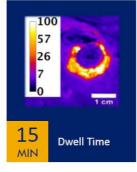
9 Swenson et al. Plos One. Oct 2015.

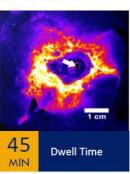
# HEAT Study: Results Inform Phase III OPTIMA Study Design

Multivariate Analysis Suggests RFA Dwell Time with ThermoDox was the Key Factor Correlating to Significant Improvement In Overall Survival

# Computational Model Doxorubicin Concentrations 180 160 140 120 120 120 140 20 5 15 30 MINUTES MINUTES Ablation Time Dox in Center Dox in Margin





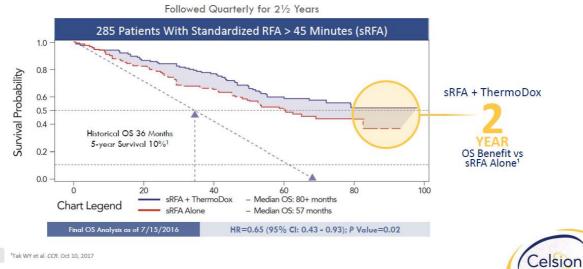






## ThermoDox + RFA Demonstrated a 2-year Improvement in Overall Survival

HEAT Study Subgroup Survival Analysis With Standardized Dwell Time and Number of Lesions



11 ¹Tak WY et al. CCR. Oct 10, 2017

# **HEAT Study Subgroup**

Transcends Historic Survival Rates

Phase III HEAT Study Adding Lyso-Thermosensitive Liposomal Doxorubicin to Radiofrequency Ablation in Patients With Unresectable Hepatocellular Carcinoma Lesions

Won Young Tak, Shi-Ming Lin, Yijun Wang, Jiasheng Zheng, Aldo Vecchione, Soo Young Park, Min Hua Chen, Stephen Wong, Ruocai Xu, Cheng-Yuan Peng, Yi-You Chiou, Guan-Tam Huang, Jianqiang Cai, Basri Johan Abdullah, June Sung Lee, Jae Young Lee, Jong Young Choi, Julieta Gopez-Cervantes, Morris Sherman, Richard S. Finn, Masao Omata, Michael O'Neal, Lukas Makris, Nicholas Borys, Ronnie Poon, and Riccardo Lencionii

DOI: 10.1158/1078-0432.CCR-16-2433



Celsion

12 Tak WY et al. CCR. Oct 10, 2017

#### ThermoDox + sRFA: Transformative Results

Widespread Data Dissemination



Radiology Future ONCOLOGY



**Hepatic Oncology** 







#### Results Presented at Numerous Conferences

Not Celsion's Opinion Alone!





















# Independent NIH Analysis Confirms the Importance of RFA Dwell Time



#### Evaluated RFA burn time per tumor volume (min/mL) for correlation with clinical outcome

#### **Overall Findings**

Increase in burn time per tumor volume improved overall survival (OS) in ThermoDox + RFA patients compared to RFA-only patients, n=437

For all single-lesion RFA + ThermoDox patients One unit increase in RFA duration per tumor volume improved OS by 20% (n=227)

- More dramatic differences in subgroup of patients with RFA burn times per tumor volume >2.5 minutes/mL
- Cox multiple covariate analysis showed OS to be significant (P=0.038; HR=0.85)

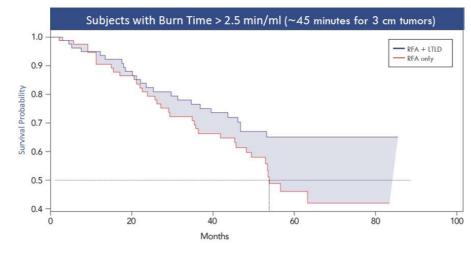
For all single-lesion RFA-only patients

Burn time per tumor volume did not have a significant effect (n=210)



# NIH Analysis Correlates Dwell Time and Volume to OS Benefit

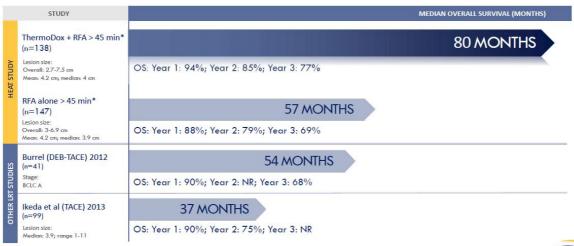
Confirmatory Results and Basis of HCC OPTIMA Study Design



16 Presented at RSNA, 2016



# ThermoDox + sRFA Demonstrates Significant OS Benefit versus Other Locoregional Therapies

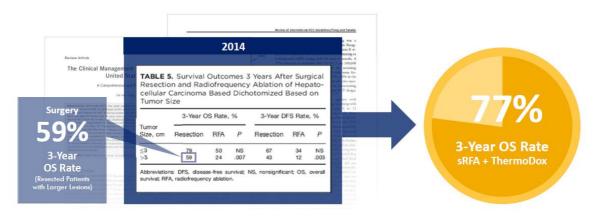


17 \*Subgroup from HEAT Study.



#### ThermoDox + sRFA Results

High Survival Rates for Patients With Intermediate Size Lesions



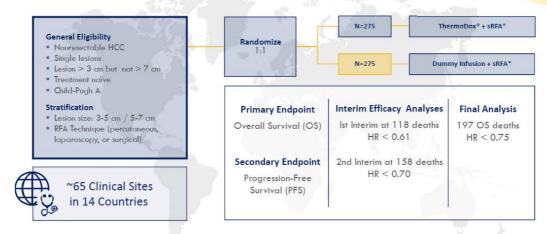
18 Fong et al. *Cancer*. Sept 15, 2014 Tak WY et al. *CCR*. Oct 10, 2017



# Phase III OPTIMA Study Design

Applying Broad-based Learnings to OPTIMA Study



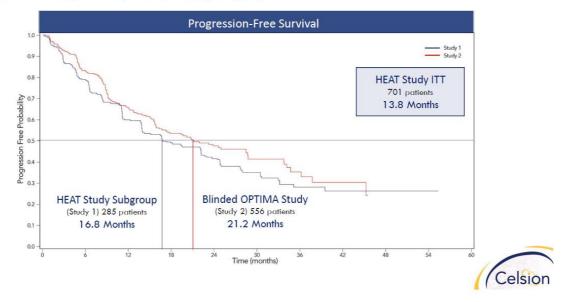




19 \*Standardized radiofrequency ablation > 45 minutes.

# OPTIMA Study: Blinded PFS Data Consolidated for Both Arms

PFS and OS Tracking with Results of HEAT Study Subgroup



## ThermoDox Summary



OPTIMA Study addresses the largest global unmet medical need remaining in oncology HCC Cancer: A \$ Billion+ Commercial Opportunity



Published HEAT Study subgroup analysis demonstrates ability to deliver clinically meaningful results for early-stage and intermediate-stage HCC patients



Addressable patient population offers a "Blockbuster" market opportunity



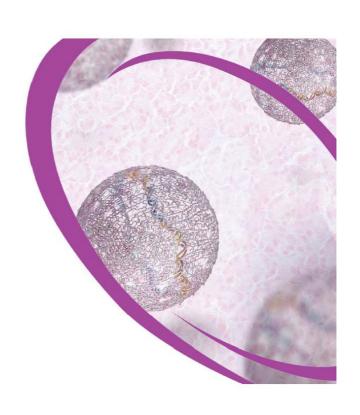
PFS and OS Data is on track with expectations



First look at interim data: 2<sup>nd</sup> half of 2019

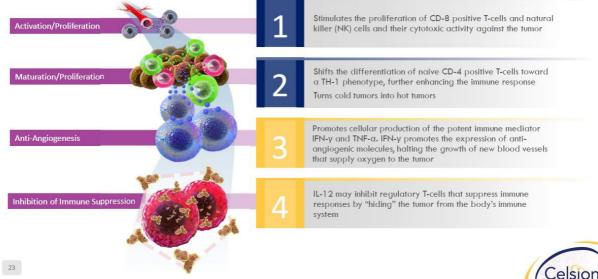






# IL-12: A Powerful Immune-Modulating Agent

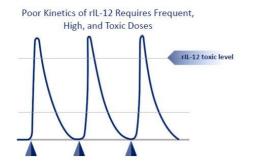
Interleukin 12 (IL-12) Can Induce Anti-cancer Immunity Through Multiple Mechanisms



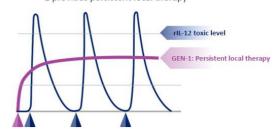


# GEN-1 Addresses IL-12 Toxicity and Poor Pharmacokinetics (pK)

First-In-Class IL-12 Novel Delivery



Novel Polymer-Plasmid DNA Transfection Nanoparticle of GEN-1 provides persistent local therapy



Locoregional production avoids toxicities and poor pK associated with systemic recombinant protein IL-12 (rIL-12)

Persistent local delivery lasts up to 1 week, with ability for repeat dosing

Potential for long-term maintenance therapy



# GEN-1 Clinical Development Program Published in Peer-Reviewed Journals







Anwer et al, *Gene Therapy*, Phase I Monotherapy

Anwer et al, *Gynecol Oncol*, Combination with Plat/Doxil

Alvarez et al, *Gynecol Oncol*, Phase II monotherapy

Thaker et al, *Gynecol Oncol*, Combination with Doxil

Thaker et al, *Future Oncol*, Gen-1 Review

#### **Transformative Results Presented at Numerous Conferences**











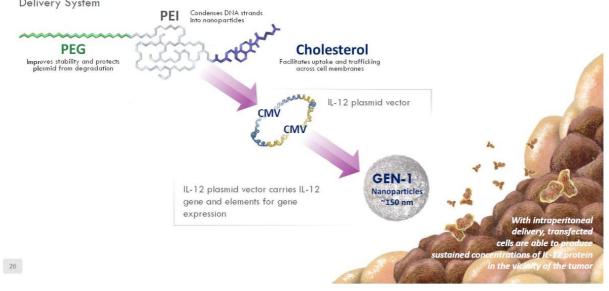




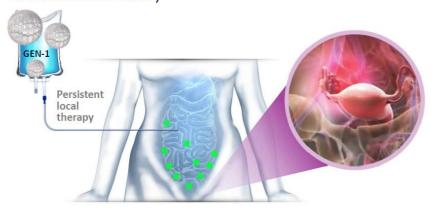


# **GEN-1** Composition

Three Components of Polyethylene Glycol (PEG) Polyethyleneimine (PEI) Cholesterol Delivery System



# GEN-1 Targets Ovarian Cancer Metastases Throughout the Peritoneal Cavity



Intracavity infusion of GEN-1 produces durable and local expression of IL-12 in the peritoneum

Peritoneal-plasma barrier minimizes systemic exposure of IL-12, thereby improving safety profile of GEN-1

Local Expression of IL-12 Favors Immune Modulation in Tumor Microenvironment



## First Target: Ovarian Cancer

High Global Incidence and Mortality

#### 8<sup>th</sup> Most Diagnosed Cancer Among Women





countries



14,240 deaths from ovarian cancer in the U.S. (2015)

#### 5<sup>th</sup> Highest Mortality Among Women

- 5-year survival rate for all stages is < 50%
- > 70% of women are diagnosed in advanced stages (III/IV)
- Only 15% diagnosed with localized cancer eligible for potentially curative surgery
- Survival rate dramatically reduced if not localized cancer
- Most common site of recurrence is in the abdomen
- Intraperitoneal-administered therapy is an important clinical strategy

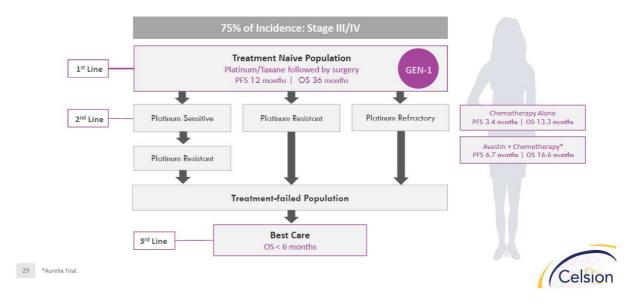
Addressable Market Opportunity

> 100,000 Patients

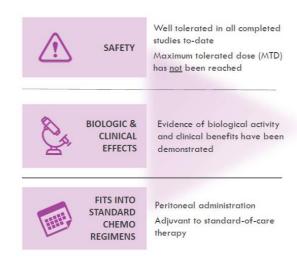


## Treatment Options in Advanced Ovarian Cancer Are Limited

Recurrence Rates are High and Survival Rates Low



# Five Completed Trials of GEN-1 in Patients With Ovarian Cancer

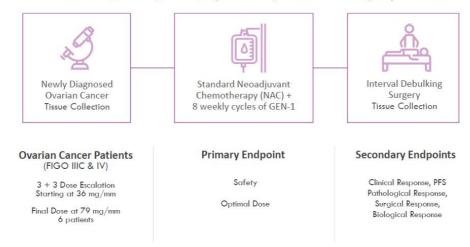


+ Doxil	lb	Platinum-Resistant	14
+ Carboplatin/ Docetaxel	Ĭ.	Platinum-Sensitive	13
Monotherapy	П	Platinum-Resistant	20
Monotherapy	1.	Platinum-Resistant	13
Mono/Combo	Study Phase	Disease	N
	Monotherapy  Monotherapy  + Carboplatin/ Docetaxel	Monotherapy I  Monotherapy II  + Carboplatin/ Docetaxel I	Mono/combo Phase Disease  Monotherapy I Platinum-Resistant  Monotherapy II Platinum-Resistant  + Carboplatin/ Docetaxel I Platinum-Sensitive



## **OVATION I Ovarian Cancer Study**

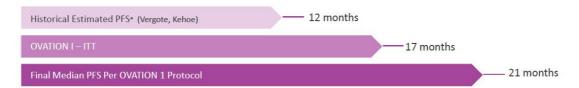
Phase I to Determine Dose, Efficacy, and Biological Activity With NAC in Stage III/IV Patients





# OVATION I Study: Improved Progression-Free Survival with GEN-1

vs Historic Outcomes in Comparable Patient Populations



#### Similar Baseline Patient Characteristics in the OVATION I Study vs Large NAC Trials

Name of Study	# of Patients 🛉 🛉	Age 🚻	Histology 🌠	Stage 🎎
OVATION I	18	Median: 63 Range: 48-79	Serous: 95% Clear Cell: 5%	IIIC: 67% IV: 33%
Vergote	670	Median: 63 Range: 33-81	Serous: 65% Undiff: 27%	IIIC: 76% IV: 24%
Kehoe	550	Median: 65 Range: 34-88	Serous*: 83% Clear Cell: 6%	IIC, IIIA/B: 12% IIIC: 71% IV: 15%



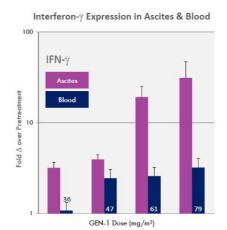


# **OVATION I Study**

Clinical and Molecular Dose Responses Demonstrated

#### Clinical Responses\*

	GEN-1	
	Low-Dose Cohorts 36 mg & 47 mg	High-Dose Cohorts 61 mg & 79 mg
Objective Tumor Response (CR/PR) RECIST 1.1	60%	100%
Interval Debulking Status RO Resection Rate	40%	88%



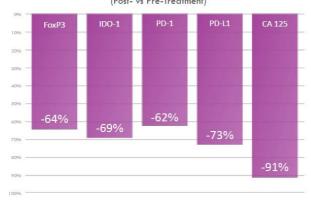


33 \*Chemotherapy dose consistent across all GEN-1 dosing cohorts

## **OVATION I Study**

Pro-immune Changes in Tumor Microenvironment

#### Key Immunosuppressive Biomarkers in Ovarian Cancer Significantly Inhibited (Post- vs Pre-Treatment)



Density of immune biomarkers measured in tissue sections via immunocytochemical staining

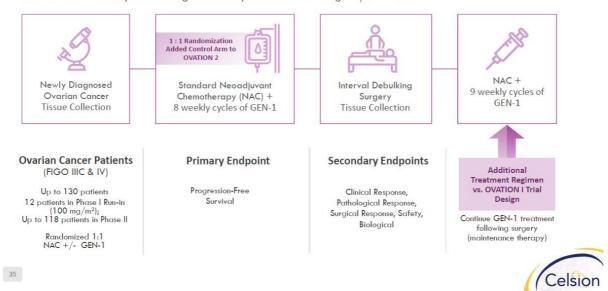
Final CA125 measured in blood upon enrollment and at  $5^{\rm th}$  GEN-1 treatment

Decrease in FOXP3 and IDO-1 not observed in previous NAC studies



#### GEN-1 OVATION 2 Ovarian Cancer Study

To Determine Efficacy and Biological Activity With NAC in Stage III/IV Patients



## **GEN-1 Summary**



GEN-1 offers a novel way to harness the powerful immunological properties of IL-12; The "Master Switch" to the body's immune system



Five completed ovarian cancer trials demonstrate biologic and clinical activity; Strong efficacy signals in Phase I; Mechanism of action confirmed



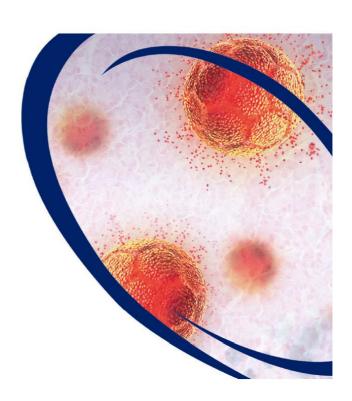
OVATION 2 offers new hope to a large segment of newly diagnosed advanced ovarian cancer patient population



Completion of first phase of OVATION 2 on track for the  $2^{\rm nd}$  half of 2019



# Celsion Financials



#### Financial Overview



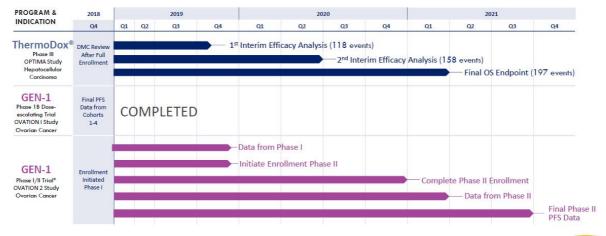
Cash & Investments at 9/30/2018	\$22.0 million
+ NOL sale by 12/31/2018	\$10.4 million
Total Cash & Investments	\$32.4 million
Estimated cash usage per month	\$1.5 million
Market Capitalization	~\$40 million





# Advanced Stage Clinical Development Programs

Milestone Events 2019-2021





39 \*Open-label design will allow for periodic reporting of results.

#### Celsion Leadership Team



Michael H. Tardugno Chairman, President and Chief Executive Officer

Michael Tardugno's career has been focused exclusively in healthcare, with 40 years of experience in the pharmaceutical and medical device industries. Mr. Tardugno was appointed President and Chief Executive Officer of Celsion in January 2007, and was elected to the Chairman of the Board of Directors in October 2012. Prior to joining Celsion, Mr. Tardugno held senior executive positions with Mylan Laboratories, Bristol-Myers Squibb, Bausch & Lomb and Abbott Laboratories.



Nicholas Borys, MD Executive Vice President and Chief Medical Officer

Nicholas Borys joined Celsion in October 2007 as Vice President and Chief Medical Officer where he manages the clinical development programs for Celsion, Prior to joining Celsion, he held senior positions at Molecular Insight Pharmaceuticals, Cytogen Corporation, Anthra Pharmaceuticals, Amersham Healthcare and Hoffmann La-Roche.



Khursheed Anwer, PhD, MBA Executive Vice President and Chief Scientific Officer

Khursheed Anwer joined Celsion in June 2014 upon the acquisition of EGEN, Inc., where he was President and Chief Scientific Officer, a position he held since 2009. Prior to joining Celsion, Dr. Anwer was Director of Pre-Clinical Development at Valentis, Inc. From 1993 to 1999, he served in several positions at GeneMedicine, where he led several research projects in the area of nonviral gene therapy.



Jeffrey W. Church Executive Vice President, CFO & Corporate Secretary

Jeffrey Church joined Celsion in July 2010 as Vice President and Chief Financial Officer. He brings more than 35 years of experience in corporate finance, M&A, investor relations, and SEC reporting. Prior to joining Celsion, Mr. Church held senior financial executive positions with several private and public life science companies, including Alba Therapeutics, Novavax, GenVec and Meridian Medical Technologies.



Anthony Recupero Vice President Business Development

Anthony Recupero joined Celsion in 2018 and leads all business development activities. Dr. Recupero has nearly 20 years' leadership experience in senior business development and licensing roles at Adare Pharmaceuticals, Apfalis Pharma, Eurand, MaxCyte and Gene Logic with a background in multiple therapeutic areas, platforms and technologies including: cell based therapies, parenteral and oral drug delivery systems and monoclonal antibodies.





Corporate Information Celsion Corporation 997 Lenox Drive Suite 100 Lawrenceville, NJ 08648

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#### www.celsion.com

NASDAQ: CLSN

