Developing medicines harnessing the capability of DNA to power body's immune system



Corporate Overview

September 2024 Nasdaq: IMNN

Forward-Looking Statements

This presentation and any statements made during any presentation or meeting contain forward-looking statements related to Imunon, Inc. ("Imunon") 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," "expected," and "intend," among others. There are many factors that could cause actual events to differ materially from those indicated by such forward-looking statements, including, among others: 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, regulatory submissions, including if our clinical trials enroll more slowly than anticipated; the risk that top line and/or full data from clinical trials is not consistent with interim data; Imunon's ability to obtain and maintain regulatory approval of any of its product candidates; possible changes in capital structure, future working capital needs and other financial items; changes in approaches to medical treatment and the risk that our estimates of patient populations are inaccurate; the ability to obtain additional funds for operations; reliance on third parties to conduct preclinical studies or clinical trials; and those risks listed under "Risk Factors" as set forth in Imunon's most recent periodic reports filed with the Securities and Exchange Commission, including Imunon's Form 10-K for the year ended December 31, 2023.

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. Forward-looking statements included herein are made as of the date hereof, and Imunon does not undertake any obligation to update publicly such statements to reflect subsequent events or circumstances except as required by law.



About IMUNON

Business strategy capitalizes on our competencies and technology platform, and their synergies across disease modalities

IMMUNO-ONCOLOGY

DNA-BASED VACCINES

VERTICAL INTEGRATION

PHASE 3 COMPETENCY

An asset with high potential, development in high disease burden cancers where an immunological approach through durable cytokine expression at tumor site modifies tumor microenvironment and improves outcomes.

A partnership opportunity, for pharmaceutical companies, institutions and/or government agencies to develop a saleable vaccine platform with potential to address pathogens with pandemic potential.

Of the core elements of our business, to control costs, deliverables and IP, realized through in-house production of cGMP plasmids, synthetic delivery systems and investments in key partners.

Highly capable staff, experienced with conducting global studies, working with regulatory agencies around the world, demonstrated record of strategic and operational execution.

Product Pipeline of DNA-based Transformative Medicines

Platform	Program	Indication(s)	Discovery	IND enabling	Phase 1	Phase 2	Phase 3	Partner
TheraPlas	IL-12 (OVATION 2)	Newly Diagnosed Advanced Ovarian Cancer	IMNN-001		topline rec	idout complete		
	IL-12 IP in combination with Avastin *	Newly Diagnosed Advanced Ovarian Cancer	IMNN-001			enrolling		BREAK THROUGH CANCER #RadicalCollaboration
	IL-12 (OVATION 3)	Newly Diagnosed Advanced Ovarian Cancer	IMNN-001		Ex	pected to begin	Q1 2025	
PlaCCine	SARS-CoV-2 Clinical Proof-of-Concept	COVID-19 Seasonal Vaccine	IMNN-101					

Investment Highlights

- Reported favorable and clinically meaningful topline results from OVATION 2, a large randomized Phase 2 study of IMNN-001 in newly diagnosed ovarian cancer
 - Patients are being followed for OS per protocol, further data analyses are underway
 - OVATION 3 Phase 3 trial expected to start Q1 2025, manufacturing capability in place
- A second Phase 2 study in advanced ovarian cancer is underway with IMNN-001 + Avastin*, evaluating Minimal Residual Disease at SLL**
 - Largely funded by the Breakthrough Cancer Foundation, data belongs to IMUNON
- Ovarian cancer represents a multibillion-dollar unmet medical need
 - IMNN-001 has been granted Fast Track by the FDA
 - Orphan status has been established in the U.S. and EU
- Proof-of-concept trial underway with PlaCCine platform in SARS-CoV-2
 - IMNN-101 has demonstrated a robust immune response from the platform
 - Technology offers multiple advantages over current vaccines



OVATION 2 Topline Results in Advanced Ovarian Cancer

Announced on July 30, 2024





OVATION 2 Ovarian Cancer Study

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



Ovarian Cancer Patients (FIGO IIIC & IV) • 112 patients. ITT population contains

• ITT population contains mix group of BRCA +/- subjects

Primary Endpoint

• Progression Free Survival (PFS). After 80 PFS events or at least 16 months, whichever is longer

Secondary Endpoints

 Overall Survival (OS), ORR, Pathological Response, Chemotherapy Rresponse Sscore, Surgical Resection Scores, Biological Response, Safety

OVATION 2 Topline Data Readout

		Median time to event, Experimental vs Control (months)	Hazard Ratio, Experimental vs Control
Overall Survival	ITT (n=112)	40.5 vs 29.4	0.74 (0.42; 1.30) p=NS
(secondary endpoint)	≥20% of protocol-specified treatments in both arms (n=102)	45.1 vs 29.4	0.64 (0.35; 1.19) p=NS
	PARP-treated patients (n=43)	NE vs 37.1	0.41 (0.13; 1.28) p=NS
Progression-	ITT (n=112)	14.9 vs 11.9	0.79 (0.51; 1.23) p=NS
Free Survival (primary endpoint)	≥20% of protocol-specified treatments in both arms (n=102)	14.6 vs 11.9	0.76 (0.48; 1.22) p=NS
	PARP-treated patients (n=31)	33.8 vs 22.1	0.80 (0.31; 2.12) p=NS

NACT neoadjuvant chemotherapy, **NE** not evaluable, **p=NS** p-value not significant **OVATION 2 treatment arms** Experimental: IMNN-001 + NACT; Control: NACT

OVATION 2 Summary

If results are replicated in Phase 3, we believe IMNN-001 will be approved as first-line treatment for ovarian cancer and will change the standard of care

- Ovation 2 is the only trial in Ovarian Cancer that has demonstrated a benefit in overall survival.
- An 11-month improvement in Overall Survival by IMNN-001 in intent-to-treat (ITT) population
 - A clinically meaningful improvement in a difficult to treat disease
- A 15.7-month improvement in OS by IMNN-001 in patients receiving at least 20% of protocol-specified treatments in both arms (91% ITT population)
 - Demonstrating greater benefit achieved with higher drug exposure
- The potential for an exceptionally remarkable improvement in the OS benefit by IMNN-001 in patients exposed to standard of care PARP inhibitor therapy (38% of ITT population)
- IMNN-001 treatment also improved progression-free survival (PFS) in intent to treat population (ITT)
 - Benefits in PFS are qualitatively consistent with the OS data
- Consistent with OS improvement, similar PFS improvement was seen in patients receiving at least 20% of protocol-specified treatments, along with Evidence of a PFS improvement in first line PARP inhibitor therapy (11.7-month improvement in Median PFS)



Resetting Standard of Care for Ovarian Cancer: Reasons to Believe

IMNN-001 allows durable therapeutic and dose-dependent production and release of IL-12 in the Tumor Micro-Environment [1]

- Benefits of IMNN-001 therapy are consistent with durable actions of IL-12 recruiting the immune system.
- IMNN-001 has Advantages over other Approaches to IL-12 Delivery.
- The ability of IMNN-001 to deliver well tolerated and durable levels of IL-12 and other important anti-cancer cytokines could usher in the first Immune based Gene Therapy for Ovarian Cancer.

Clinical Development has achieved goals specific to each stage

- Phase 1: Dose-dependent biological response (IL-12, IFN-γ) and benefits in clinical efficacy including, objective tumor responses by RECIST, surgical resection score, and chemotherapy response score.
- Phase 2: Improvement in OS and PFS observed with IMNN-001 versus NACT with improving Magnitude of OS over time, Consistent with effective Immune therapy:
 - IMNN-001 median survival extended by 38%, 11 month: 40.5 vs 29.4 Mo

Across Clinical Development, the safety profile has been tolerable.

Unmet Patient Need is high

Product Pricing assumptions present a >\$1.6B Market Opportunity

1. Thaker et al. doi:10.1158/1078-0432.CCR-21-0360

Multibillion-Dollar Opportunity in Patients Newly Diagnosed with Advanced-Stage Ovarian Cancer

Worldwide diagnoses, each year: 300,000¹ U.S. diagnoses, each year: 20,000²

Population Assumptions, U.S. market: ~9.5k patients treated with IMNN-001

- -80% are newly diagnosed
- 60% of market captured

Price Assumptions

- Approved immune checkpoint inhibitors annual treatment³, \$125k-\$200k
- Combination therapies using 2 checkpoint inhibitors at \$300K

Base IMNN price, annual treatment: \$125k/year - \$225k/year

Annual Gross Sales \$1,653m - \$2,124m

International Agency for Research on Cancer, 2. American Cancer Society
 Keytruda, Opdivo, Lenvima, Stivarga, Nexavar

Immunotherapies Consistently Show Greater Overall Survival than Progression-Free Survival



Immunotherapy trials in cancer

Adapted from Gyawali B- A comparison of response pattern for PFS and OS following treatment for cancer with PD-1 inhibitors. JAMA Netw Open. 2018 Jun 1;1(2):e180416. doi:

Immunotherapies Consistently Show Greater Overall Survival than Progression-Free Survival

Meta Analysis from systematic search covering 10 studies, 4,653 patients spanning 8 clinical settings supports importance of OS

Table 2. Efficacy Data									
		PFS				OS			
Source	Setting	PD-1 Group, mo	Control Group, mo	Difference, mo	Hazard Ratio (95% CI)	PD-1 Group, mo	Control Grou mo	p, Difference, mo	Hazard Ratio (CI)
Ferris et al, ⁸ 2016 (Checkmate 141)	Recurrent head and neck	2.0	2.3	-0.3	0.89 (0.70-1.13)	7.5	5.1	2.4	0.70 (97.73% Cl, 0.51-0.96)
Borghaei et al, ⁹ 2015 (Checkmate 057)	Second line, nonsquamous NSCLC	2.3	4.2	-1.9	0.92 (0.77-1.1)	12.2	9.4	2.8	0.73 (96.00% CI, 0.59-0.89)
Brahmer et al, ¹⁰ 2015 (Checkmate 017)	Second line, squamous NSCLC	3.5	2.8	0.7	0.62 (0.47-0.81)	9.2	6	3.2	0.59 (95.00% CI, 0.44-0.79)
Robert et al, ¹¹ 2015 (Checkmate 066)	First line, melanoma	5.1	2.2	2.9	0.43 (0.34-0.56)	NR	10.8	NR	0.42 (99.79% CI, 0.25-0.73)
Motzer et al, ¹² 2015 (Checkmate 025)	Second line, RCC	4.6	4.4	0.2	0.88 (0.75-1.03)	25	19.6	5.4	0.73 (98.50% Cl, 0.57-0.93)
Carbone et al, ¹³ 2017 (Checkmate 026)	First line, NSCLC	4.2	5.9	-1.7	1.15 (0.91-1.45)	14.4	13.2	1.2	1.02 (95.00% Cl, 0.80-1.30)
Bellmunt et al, ¹⁴ 2017 (Keynote 045)	Second line, urothelial	2.1	3.3	-1.2	0.98 (0.81-1.19)	10.3	7.4	2.9	0.73 (95.00% Cl, 0.59-0.91)
Reck et al, ¹⁵ 2016 (Keynote 024)	First line, NSCLC	10.3	6.0	4.3	0.5 (0.37-0.68)	NR	NR	NR	0.60 (95.00% Cl, 0.41-0.89)
Herbst et al, ¹⁶ 2016 (Keynote 010) ^a	Second line, NSCLC	3.9	4.0	-0.1	0.88 (0.74-1.05)	10.4	8.5	1.9	0.71 (95.00% Cl, 0.58-0.88)
Langer et al, ¹⁷ 2016 (Keynote 021) ^{b,c}	First line, NSCLC	13.0	8.9	4.1	0.53 (0.31-0.91)	NR	NR	NR	0.90 (95.00% CI, 0.42-1.91)
After Treatment With Ipilimumab									
Ribas et al, ¹⁸ 2015 and Hamid et al, ¹⁹ 2016 (Keynote 002) ^{a,b}	Second line, melanoma	2.9	2.7	0.2	0.57 (0.45-0.73)	13.4	11.0	2.4	0.86 (95.00% CI, 0.67-1.10)
Weber et al, ²⁰ 2015 and Larkin et al, ²¹ 2018 (Checkmate 037)	Second line, melanoma	3.1	3.7	-0.6	1.0 (0.78-1.44)	15.7	14.4	1.3	0.95 (95.54% CI, 0.73-1.24)

Overall Survival HR outpaces PFS by .03 to .25

Difference in OS 1.2 to 5.4 mo.

Abbreviations: NR, not reached; NSCLC, non-small cell lung cancer; OS, overall survival; PD-1, programmed cell death 1; PFS, progression-free survival; RCC: renal cell carcinoma.

^a Only the 2-mg/kg cohort of pembrolizumab has been included in this analysis.

^b These are the only phase 2 trials in this analysis. All other trials are phase 3.

^c This is the only trial in which a PD-1 inhibitor was not tested as a single agent, but as a combination with chemotherapy.

Ongoing Phase 2 Study in Combination with Bevacizumab

Avastin[®] (BEV) + IMNN-001 Study Design in Advanced Epithelial Ovarian Cancer



Primary Endpoint: Rate of Minimal Residual Disease assessed at Second Look Laparoscopy

Secondary Endpoints: ORR, chemotherapy response score, PFS, OS

Study primarily funded

IMUNON

by Break Through Cancer

IMNN-001 and Ovarian Cancer





IMNN-001 Modifies the Micro-Environment of Ovarian Cancer

Local production of safe and durable levels of a powerful anti-cancer immune agent, IL-12



IMNN-001 directly modifies the Tumor Micro-Environment at the neo-adjuvant stage, when it matters the most IMNN-001 engineers the peritoneal cavity cells to produce IL-12 physiologically

Intracavity infusion of IMNN-001 has demonstrated durable and local expression of IL-12 in the peritoneum

No supraphysiological increases in IL-12 commonly associated with the bolus rIL-12 minimizes excessive systemic exposure of IL-12, thereby giving a favorable safety profile to IMNN-001

Potent Immune Mechanisms and Clinical Efficacy Supports Strong R&D Interest in IL-12: Current Strategies to Minimize Serious Systemic Toxicity

- Complete or partial responses to rIL-12 have been observed in:
 - Melanoma¹ Renal carcinoma¹ AIDS-related Kaposi sarcoma² Non-Hodgkin's lymphoma³
- However, serious systemic toxicity, including deaths, undermines the clinical benefits.
 - Hematological Hepatic
- This is driving strong R&D interest in alternate methods of IL-12 delivery having the potential for minimal systemic toxicity.
 - Targeted rIL-12: CBD-IL-12⁴, NHSAb-IL-12⁵, tumor protease cleavable⁶
 - Nucleic acids: viral vectors, mRNA⁷
 - Cell-based: CART co-expressing IL-12⁸
- The next 6 months features readouts from 3 IL-12 assets (Phase-1 or 2)
 - IMNN-001 is the only one being studied in Ovarian Cancer

1. Atkins MB. et al., Clin Cancer Res 1997. PMID: 9815699

2. Little RF., et al., Blood 2006, 107:4650

3. Younes A., et al., Clin Cancer Res 2004, 10:5432

4. Mansurov A., et al., Nat Biomed Eng- 2020, 4:531

5. Frank SE., et al., Cancer Immunology, Immunotherapy. 2023, 72:2783
6. Mansurov A., et al., Nat Biomed Eng- 2022, 6:819
7. Liu M, Nature Nanotechnology, 2024, 19:565
8. Zhu Y., et al., Pharmacology Res. 2024, 203:107186



IMNN-001 Advantages vs Other Approaches to IL-12 Delivery

Comparison with rIL-12

- Physiological profile of IL-12 with durable local increases compared to rapid high systemic increases accompanying serious systemic toxicity following rIL-12.
 - Local increases in IL-12 by IMNN-001 will be safer and more effective due to:
 - Enhanced spatiotemporal distribution.
 - Higher drug availability at tumor site.
 - High local levels more effective in reversing tumor-supporting immunosuppression
 - No Cytokine release syndrome has occurred.
 - Durable increase for several days is advantageous over short-lived rIL-12 requiring frequent treatment.

Comparison with mRNA

- IMNN-001 provides more durable protein expression.
- IMNN-001 is at advanced development stage potentially going into Phase-3 trial.

Ovarian Cancer in Newly Diagnosed Patients is the Optimal Setting for Immunotherapy and IMNN-001

IMNN-001 has the potential to become the first immunotherapy in newly diagnosed patients



Source: Front. Immunol., 06 October 2020 Sec. Cancer Immunity and Immunotherapy Volume 11 - 2020 https://doi.org/10.3389/fimmu.2020.577869



- Over 50% of 1st line advanced Ovarian Cancer patients need neo-adjuvant therapy before debulking
- Before surgery, IMNN-001 can harness the still intact local immune system to display an antitumorigenic microenvironment
- By directly accessing the intra-peritoneal tumor micro-environment and local immune system, IP administered IMNN-001 is well positioned to offer clinical value to Ovarian Cancer patients at an early stage of their disease

OVATION 2 Targets a Large Patient Population with High Unmet Needs

60% of newly diagnosed advanced OC patients and no new treatment in decades

- According to ovarian cancer experts:
 - o >50% of patients need neoadjuvant treatment before debulking surgery
 - This segment representing approximately 100,000 new patients in the US every year.
- OVATION 2 included a large proportion of FIGO Stage IIIC and IV disease, known for their worst prognosis.
- While most studies in 1st line OC exclude ECOG PS 2 patients, these patients were eligible to OVATION-2.
- No new treatment option has been offered to these patients (newly diagnosed advanced ovarian cancer who cannot undergo primary debulking surgery), since chemotherapy.
- The median PFS (12 m) and OS (29m) in the control arm of OVATION-2 confirms the poor prognosis of this population and is consistent with prior large studies conducted in this population (EORTC, CHORUS).



Introduce the First Immunotherapy for the Treatment of Newly Diagnosed Ovarian Cancer Patients

Epithelial ovarian cancer (EOC) is insidious and usually diagnosed at an advanced stage. Though EOC initially responds to treatment, the recurrence rate is high. Recent treatments delay progression but overall survival has not improved. Hence there is a need for effective therapy for patients with EOC.



20,000 cases diagnosed each year in U.S. 13,000 deaths

80% diagnosed in late stage (III/IV)

>60% will die within 5 years of diagnosis

> 100,000 Patients in the U.S. alone Standard of care has remained stagnant for decades

5th leading cause of cancer mortality in women

IMNN-001 has the potential to provide a break-through in today's perioperative standard of care



PlaCCine: "mRNA Better"

The Next Generation of Nucleic Acid Vaccines



IMUNON's Novel DNA Vaccine Platform is Addressing These Challenges

Relies on Synthetic Delivery Systems: Non-viral | Non-device | Non-LNP



Inducing robust immunological response

DNA sequencing to approved products in record time

Stability and long shelf-life at workable temperatures

Greater capital efficiency



More than 80 Pathogenic Viruses Discovered since 1980

Less than 4% have a commercially available vaccine

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Year of First Report of Human Infection

Sources: Institute of Medicine (US) Forum on Microbial Threats(2009);Medscape Medical News(2008);Lederburg,J. Emerging Infectious Diseases from the Global to the Local Perspective: A Summary of a Workshop of the Forum on Emerging Infections(2001); National Institute of Health(US)Biological Sciences Curriculum Study(2007);Holshue,M. et al NEJM (2020);Bush,L. Emerging...andRe-emerging Infectious Diseases(2015);Gibbs,AJ.Virology(2009); CDC Zika Overview;CDC Ebola About;Plotkin,S.A. Clinical Infectious Diseases(2006);Woolhouse,M.et al.PhilTransRSoc(2012);WHO H7N9 China Update(2018);Tapparel,C. et al. Virology(2013); Hepatitis B Foundation.History Page;Ho,M.MedMicrobiolImmunol.(2008);Nature.Dengue Viruses Page;Brauberger, K. et al. Viruses(2012);FDA approved vaccine list; CDC RSV Overview; Hendrickson,K.J. Clinical Microbiology Reviews(2003); Andersson,J.Herpes(2000);WHO Chikungunya Overview;CDC Varicella Overview;Xu,Y.et al. Infect Genet Evol.(2015);CDC Lassa Fever Overview

Comparable Protection & More Durable Immune Responses to PlaCCine Benefits over mRNA Vaccines

- Comparable protection efficiency (>90%) to a commercial mRNA vaccine in a side-byside study in monkeys
- Higher and more durable immune cell responses (T-cell) compared to a commercial mRNA vaccine
- Immunogenicity observed across multiple species

PlaCCine Stability at Workable Temperatures is a Clear Commercial Advantage over mRNA Vaccines





Phase 1/2 Trial Explores Immunogenicity of a COVID-19 Seasonal Booster



platform opportunities

Summary of Development Programs

IMNN-001 offers a novel way to harness the powerful immunological properties of IL-12, the "Master Switch" to the body's immune system

IMNN-101 has demonstrated that the platform can produce a robust immune response



- Robust biologic and clinical proof of concept in OVATION 1
- Clinically meaningful OVATION 2 topline data, with potential for clinical benefit in monotherapy and combinations
- Focus on peri-operative treatment of ovarian cancer with the potential to break the status quo of immunotherapy
- Plans to develop combinations, including ongoing Phase 2 with VEGF inhibitor in partnership with the Breakthrough Cancer Foundation
- Plans to explore additional indications, i.e. pancreatic, colon cancer

- Protection against live virus demonstrated
- Evidence of at least 12-month immunological durability
- Evidence of at least 12-month stability at 4°C
- Proof of concept established in non-human primates
- Positive clinical results will allow business development opportunities for COVID and other pathogens

cGMP Manufacturing Facility

Order of Magnitude Lower Costs

cGMP lots of vaccine plasmids of high yield & purity





Fermentation Facility

Plasmid Purification



Plasmid **Delivery Agent**

GMP Filling Room

- Internal capability to produce plasmid DNA and delivery agent to support clinical studies, including Phase 3 pivotal study with IMNN-001
- \checkmark 1,000 ft² of space dedicated to GMP manufacturing
- ✓ Supported by GMP quality control laboratory



Financial Summary & Upcoming Key Milestones

Robust Flow of Value-Creating Activities



\$5.3M Cash & Investments
As of June 30, 2024
\$10.0 million raised in gross proceeds, Aug 2024



9.4M Shares Outstanding As of June 30, 2024 Issued 5M shares in August 2024



Projecting cash into Q3 2025

Key Events

2nd Half 2024 IMNN-001 OVATION 2 Report topline results

IMNN-101 Announce immunogenicity data

> IMNN-001+Avastin Possible interim data

IMNN-001 OVATION 2 Hold End-of-Phase 2 meeting Determine Phase 3 design Present/publish results

1ST Half 2025

IMNN-001 OVATION 3 Phase 3 trial expected to start

Corporate Information



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