This presentation includes forward-looking statements based on management's current expectations. These statements include, but are not limited to, ImmunoGen's expectations related to: the occurrence, timing and outcome of potential pre-clinical, clinical and regulatory events related to the Company's and its collaboration partners' product programs; the presentation of preclinical and clinical data on the Company’s and its collaboration partners’ product candidates; and the financial guidance provided. For these statements, ImmunoGen claims the protection of the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Various factors could cause ImmunoGen's actual results to differ materially from those discussed or implied in the forward-looking statements, and you are cautioned not to place undue reliance on these forward-looking statements, which are current only as of the date of these slides. Factors that could cause future results to differ materially from such expectations include, but are not limited to: the timing and outcome of ImmunoGen's and its collaboration partners' research and clinical development processes; the difficulties inherent in the development of novel pharmaceuticals, including uncertainties as to the timing, expense and results of preclinical studies, clinical trials and regulatory processes; ImmunoGen's ability to financially support its product programs; the Company's dependence on its collaborative partners; industry merger and acquisition activity; and other factors more fully described in ImmunoGen's transition report on Form 10-KT for the six-month transition period ended December 31, 2016 and other reports filed with the Securities and Exchange Commission.
Leadership in antibody drug conjugates (ADCs)

Phase 3 program with POC established: mirvetuximab soravtansine

Platform generating novel clinical candidates

Technology validated clinically and through partnerships

Improving cash position

Team with deep development and commercial expertise in oncology
Executing on Strategic Priorities to Deliver ADCs to Patients

- **Execute speed-to-market strategy for mirvetuximab soravtansine**
  - Commercialize by 2020 for platinum-resistant ovarian cancer

- **Drive innovation in ADCs as cancer therapies**
  - Payloads, linkers, methods of conjugation

- **Accelerate portfolio of novel ADC assets**
  - IMGN779, IMGN632

- **Expand innovation and strengthen financials through partnerships**
  - Generate revenue and access capabilities
Significant Progress Towards Our Goals

Mirvetuximab Soravtansine

- Obtained FDA and EMA alignment with Phase 3 FORWARD I trial design to support full approval
- FORWARD I trial underway and activating 100+ trial sites globally
- Reported Phase 1b/2 FORWARD II combination study
- Established collaborations, including Merck Keytruda® combination, Clovis Rubraca™ IST, and NCCN clinical studies
- Reported pooled analysis data at ASCO 2017 from Phase 1 ovarian cancer expansion cohorts
- Published findings in Journal of Clinical Oncology, Cancer and Neoplasia

Earlier-stage portfolio

- Initiated Phase 1 clinical testing with IMGN779
- Reported preclinical data, including oral presentation, for IMGN632 at ASH 2016

Partnerships

- Bayer anetumab ravtansine Phase 2 registration trial fully enrolled
- Sanofi isatuximab in Phase 3

Operations

- Significantly strengthened cash position through sale of IMGN529 to Debiopharm and amended agreements with Sanofi
<table>
<thead>
<tr>
<th>Program</th>
<th>Indication</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<tbody>
<tr>
<td>Mirvetuximab soravtansine</td>
<td>Ovarian — monotherapy</td>
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<td>Ovarian — w/ Avastin(^\circ)</td>
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<td>Ovarian — w/ Keytruda(^\circ)</td>
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<td>Ovarian — w/ carboplatin</td>
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<td>Ovarian — w/ Doxil(^\circ)</td>
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<tr>
<td>IMGN779</td>
<td>AML</td>
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<td>IMGN632</td>
<td>Hematologic malignancies</td>
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<td>Coltuximab ravtansine</td>
<td>DLBCL</td>
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Avastin\(^\circ\), Keytruda\(^\circ\) and Rituxan\(^\circ\) are registered trademarks of their respective owners.

PLD: pegylated liposomal doxorubicin

AML: acute myeloid leukemia, DLBCL: diffuse large B-cell lymphoma
Mirvetuximab Soravtansine: Improving Outcomes in Ovarian Cancer
Mirvetuximab Soravtansine: Improving Outcomes in Ovarian Cancer

Differentiated Profile Established

- Distinct target and mechanism of action
- 1st ADC to enter pivotal development for treatment of ovarian cancer
- Demonstrated activity in platinum-resistant and platinum-sensitive disease
- Favorable safety profile supporting expanded use as combination agent

Potential Across Multiple Treatment Settings

- Displace single-agent chemotherapy and become preferred agent for combination therapy in ovarian cancer
- Potential to expand into additional FRα-positive solid tumors, including: non-small cell lung, endometrial, and triple negative breast cancer

1Decision Resources Group Patientbase
Rubraca™ is a trademark of Clovis Oncology.
Urgent Need to Improve the Care of Ovarian Cancer

• Initial treatment entails surgery followed by platinum-based chemotherapy

• Most patients progress on platinum-based treatment
  - Platinum-sensitive: cancer growth >6 months after platinum treatment
    - 7,500-9,000 platinum-sensitive patients in ≥ 2nd line
  - Platinum-resistant: cancer growth within 6 months of platinum treatment
    - 19,000-24,000 platinum-resistant patients in ≥ 2nd line

• Single-agent therapies in platinum-resistant setting have limited response, short progression-free survival and challenging side effects

<table>
<thead>
<tr>
<th>Treatment</th>
<th>ORR</th>
<th>mPFS (mos)</th>
<th>Common AEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paclitaxel¹</td>
<td>6.7-30.2%</td>
<td>3.4-3.9</td>
<td>Hair loss, neuropathy</td>
</tr>
<tr>
<td>PLD (pegylated liposomal doxorubicin)²</td>
<td>7.8-12.3%</td>
<td>2.1-3.7</td>
<td>Hand foot syndrome</td>
</tr>
<tr>
<td>Topotecan³</td>
<td>0.0-19.3%</td>
<td>2.1-4.2</td>
<td>Low blood counts, fatigue</td>
</tr>
</tbody>
</table>

#1 LEADING CAUSE OF DEATH FROM GYNECOLOGIC CANCER IN U.S.

5th MOST COMMON CAUSE OF CANCER DEATH IN WOMEN

22,000 WOMEN DIAGNOSED ANNUALLY
**Clinical Benefit in Platinum-Resistant Ovarian Cancer Well Past 1 Year on Treatment**

<table>
<thead>
<tr>
<th></th>
<th>ASCO 2016 Analysis&lt;sup&gt;1&lt;/sup&gt;</th>
<th>ASCO 2017 Pooled Analysis&lt;sup&gt;2&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td><strong>All Patients</strong></td>
<td></td>
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<tr>
<td>(n = 46)</td>
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<tr>
<td>cORR (95% CI)</td>
<td>26% (14, 41)</td>
<td>30% (22, 39)</td>
</tr>
<tr>
<td>PFS Median months</td>
<td>4.8 (3.9, 5.7)</td>
<td>4.3 (3.9, 5.4)</td>
</tr>
<tr>
<td>(95% CI)</td>
<td></td>
<td>6.7 (4.1, 8.3)</td>
</tr>
<tr>
<td>PROC 1-3 priors +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>med/high FRα expression</td>
<td>44% (20, 70)</td>
<td>47% (30, 65)</td>
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<tr>
<td>(n = 16)</td>
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</table>

1. Moore et al ASCO 2016
2. Moore et al ASCO 2017
Favorable Safety Profile Demonstrated in Phase 1 Study

- Well tolerated across all ovarian cancer cohorts (n = 113)
- Adverse events generally low grade and manageable
- No grade $\geq 3$ adverse event occurred in $\geq 10\%$ of patients
- Consistent adverse event profile for FORWARD I eligible subset (n = 36) with the pooled population
- Drug-related AEs leading to discontinuation seen in 10 patients (9%)
Comprehensive Strategy to Maximize Mirvetuximab Reach

FORWARD I

• Establish initial position through single-agent monotherapy in ovarian cancer

FORWARD II

• Expand benefit through combinations in earlier lines of ovarian cancer

• Broaden use into additional FRα-positive solid tumors
  (NCLC, endometrial and triple-negative breast cancer)
FORWARD I: Initial Point of Market Entry in Ovarian Cancer

ENROLLMENT: 333 patients with FRα-positive (high/medium) platinum-resistant ovarian cancer treated with up to 3 prior regimens

- Validated use of archival tumor tissue to determine patient selection
- >100 sites in U.S., Canada and Europe
- Conducted in partnership with GOG Foundation

Physician’s choice single-agent chemotherapy*

Mirvetuximab soravtansine 2:1 randomization

PRIMARY ENDPOINT: Progression-Free Survival (PFS)
for high FRα expressers only and for all patients
(FDA and EMA aligned with primary endpoint, statistical analysis plan and size of safety database)

*Pegylated liposomal doxorubicin (PLD), topotecan, weekly paclitaxel.
SGO 2017, abstract # 61
FORWARD II: Combinations to Expand Mirvetuximab Positioning

Patients with FRα-positive platinum-resistant OR platinum-sensitive ovarian cancer

Preclinical synergy* supports broad populations, including FRα low expressers: ~80% of all ovarian patients

Avastin®, Doxil®, and Keytruda® are registered trademarks of their respective owners.

Avastin® naïve and pretreated expansion cohorts ongoing

Keytruda® expansion cohort to begin 2Q17

Expansion under consideration

*Preclinical combination data published – Ponte et al, Neoplasia 2016
Current Treatments Indicate Need for Effective Combinations for Both Platinum-Resistant and Platinum-Sensitive Ovarian Cancer

### Platinum-Resistant Ovarian Cancer

**AURELIA**

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Chemo/Bev</th>
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<tbody>
<tr>
<td>Median age</td>
<td>61</td>
</tr>
<tr>
<td>Patient population</td>
<td>Platinum resist 1-2 priors 60% - 1 prior 40% - 2 prior</td>
</tr>
<tr>
<td>Prior bevacizumab</td>
<td>7%</td>
</tr>
<tr>
<td>ORR</td>
<td>27%</td>
</tr>
<tr>
<td>mPFS</td>
<td>6.7 (95% 5.7, 7.9)</td>
</tr>
</tbody>
</table>

### Platinum-Sensitive Ovarian Cancer

<table>
<thead>
<tr>
<th>OCEANs</th>
<th>GOG213</th>
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<tbody>
<tr>
<td>Regimen</td>
<td>Carbo/Gem</td>
</tr>
<tr>
<td>Median age</td>
<td>61</td>
</tr>
<tr>
<td>Patient population</td>
<td>plat sensitive, 1 prior</td>
</tr>
<tr>
<td>Prior bevacizumab</td>
<td>0</td>
</tr>
<tr>
<td>ORR</td>
<td>57%</td>
</tr>
<tr>
<td>mPFS</td>
<td>8.4 (95% 8.3, 9.7)</td>
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</table>
Encouraging Efficacy and Safety Results in Multiple Combinations

<table>
<thead>
<tr>
<th>PHASE 1B/2 STUDY</th>
<th>COMBINATION AGENT</th>
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<tbody>
<tr>
<td></td>
<td>Avastin</td>
</tr>
<tr>
<td>Number enrolled</td>
<td>14 (platinum-resistant)</td>
</tr>
<tr>
<td>Median number of prior therapies (range)</td>
<td>6 (2-8)</td>
</tr>
<tr>
<td>Grade 3 or greater adverse events in &gt; 1 patient</td>
<td>Hypertension, small intestinal obstruction</td>
</tr>
<tr>
<td>Dose limiting toxicity</td>
<td>1 pt with grade 2 neutropenia and thrombocytopenia</td>
</tr>
<tr>
<td>Objective response rate</td>
<td>29% (95% CI 8.58)</td>
</tr>
<tr>
<td>Median progression free survival (months)</td>
<td>9.5 (95% CI 3.5, 15.2)</td>
</tr>
</tbody>
</table>

**Full dose of each agent able to be combined**

**Favorable safety profile with adverse events in-line with known profiles of each agent**

**Most common low grade AEs: diarrhea, nausea, blurred vision, fatigue**
Mirvetuximab Represents Compelling Treatment Opportunity

- Monotherapy proof-of-concept established in platinum-resistant ovarian cancer
- Enrollment underway in FORWARD I Phase 3 registration study
- Data validate patient population and design of FORWARD I
- Favorable safety and encouraging activity in FORWARD II combinations support broad potential
Accelerating Pipeline of Earlier-Stage Antibody Drug Conjugates
A New Class of DNA-Acting IGN Payloads

Designed for improved efficacy and tolerability

- Highly potent without sustained toxicity that limits re-dosing
- Indolinobenzodiazepine backbone
  - More potent than SJG-136 – Spirogen’s “free-drug” PBD
  - Payload binds to minor groove of DNA
  - Monoimine chemistry alkylates target DNA
    - Retains potency of crosslinking compounds
    - Avoids high toxicity of crosslinking drugs seen in preclinical studies
First ADC with IGN payload
Enrolling AML patients in Phase 1
Clinical data expected in mid-2017

IMGN779: targeting CD33

IMGN632: targeting CD123

Next generation IGN payload with 10X increase in potency
Peptide linker and proprietary site-specific conjugation yields excellent plasma stability and efficient drug release at tumor site
Data reported at 2016 ASH (oral ab #768):
- Exceptional activity in preclinical AML models, including those resistant to standard of care therapies, with Therapeutic Index >100 fold
- >50 fold reduction in toxicity to human marrow progenitor cells compared to a DNA crosslinking payload, while maintaining similar potency on human AML blasts and xenografts

IND application and clinical testing expected in 2H2017

Accelerating IGN ADCs for Hematologic Malignancies
Most Comprehensive ADC Toolbox

MODULAR APPROACH → INTEGRATED SYSTEM

**Targeting Vehicles**
- MAbs
- Probodies
- Novel protein and chemical binders

**Linkers**
- Thioether
- Peptide
- Hindered disulfides
- Others in development

**Payloads**
- Tubulin-acting maytansinoids (e.g., DM1, DM4)
- DNA-acting IGNs (e.g., DGN462, DGN549) – alkylate DNA

**Conjugate Chemistry and Screening**
- Lysine and site-specific conjugation
- Microscale synthesis and screening methods
- Proprietary conjugate CMC capabilities

DRIVES CONTINUED ADC INNOVATION AND LEADERSHIP
# Levering Partnerships to Expand Impact of Innovation

ADC Expertise Has Led to Extensive Collaborations

<table>
<thead>
<tr>
<th>Partner Programs (active, disclosed)</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Marketed</th>
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<tbody>
<tr>
<td><strong>Roche</strong></td>
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<td>KADCYLA®</td>
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<td>Bayer</td>
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<td>Anetumab ravtansine</td>
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<td>Isatuximab</td>
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<td><strong>Biotest</strong></td>
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<td>Indatuximab ravtansine</td>
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<td><strong>Takeda</strong></td>
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<td>GCC-targeting ADC</td>
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*Kadcyla® is a registered trademark of Genentech, a member of the Roche Group.*

Registration-enabling Phase 2 started in 2016.
2017 Milestones Supporting Execution of Strategic Objectives

EXECUTE SPEED-TO-MARKET STRATEGY FOR MIRVETUXIMAB SORAVTANSINE

• FORWARD I registration trial
  ✓ Initiate patient enrollment
  − Rapid patient accrual with more than 100 sites in 2017

• Clinical data presentations
  ✓ Biopsy cohort at SGO
  ✓ Pooled Phase I analyses supporting FORWARD I trial
  ✓ FORWARD II combination data demonstrating safety and activity
    • Eye-drop cohort at ESMO

DRIVE INNOVATION AND ACCELERATE PORTFOLIO OF EARLIER-STAGE ADCs

• IMGN779
  − Early clinical data – safety (EHA); expanded clinical data (4Q17)

• IMGN632
  − Phase 1 initiation (2H17)

 ✓ Presentation on platform innovations and novel ADC targets at AACR

• ImmunoGen/CytomX collaboration candidate into preclinical (2017)

EXPAND INNOVATION AND MAINTAIN FINANCIAL STRENGTH THROUGH PARTNERSHIP

• Partner progress
• New collaboration
ImmunoGen: Positioned for Sustainable Growth

- Phase 3 registration trial underway with mirvetuximab
- Comprehensive, validated ADC technology portfolio
- Robust pipeline of differentiated ADCs
- Financial strength and discipline
- Experienced team