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Director Investor Relations
This presentation contains forward-looking statements. Although the Company believes its expectations are based on reasonable assumptions, these forward-looking statements are subject to numerous risks and uncertainties, which could cause actual results to differ materially from those anticipated. There can be no guarantee that (i) the results of the Phase 2b part of the TIME trial will be predictive of future results with TG4010, (ii) regulatory authorities will agree with the Company’s plans for the Phase 3 part of the TIME trial, or (iii) the Company will find a development and commercialization partner for TG4010 in a timely manner and on satisfactory terms and conditions, if at all. The occurrence of any of these risks could have a significant negative outcome for the Company’s activities, perspectives, financial situation, results and development. The Company’s ability to commercialize its products depends on but is not limited to the following factors: positive pre-clinical data may not be predictive of human clinical results, the success of clinical studies, the ability to obtain financing and/or partnerships for product development and commercialization, and marketing approval by government regulatory authorities. For a discussion of risks and uncertainties which could cause the Company's actual results, financial condition, performance or achievements to differ from those contained in the forward-looking statements, please refer to the Risk Factors (“Facteurs de Risque”) section of the Document de Référence, which is available on the AMF website (http://www.amf-france.org) or on Transgene’s website (www.transgene.fr).

Forward-looking statements speak only as of the date on which they are made and Transgene undertakes no obligation to update these forward-looking statements, even if new information becomes available in the future.
Discovering and Developing Targeted Immunotherapies to Treat Cancer and Infectious Diseases

- Euronext: TNG
- Market cap: ~€ 285 million
- Shares outstanding: 38.4 million
- HQ in Strasbourg, France
  - Office in Lyon, France
  - Satellite offices in U.S. and China
- Well funded with € 84.1 million in cash and equivalents at Sept. 30
TRANSGENE – POSITIONED FOR SUCCESS

- Specializing in promising field of immunotherapy
- Two products preparing to enter Phase 3, in lung and liver cancer
- Compelling near-term partnering opportunity with most advanced program - cancer product candidate, TG4010
- Broad pipeline of clinical and pre-clinical programs in cancer and infectious diseases
- Management team with extensive biotech/pharma experience
IMMUNOTHERAPY: INNOVATIVE TREATMENT PARADIGM
Field Set to Grow Significantly in Next 10 Years

● Following more than 30 years of research, immunotherapy is rapidly gaining momentum in the treatment of cancer
  ▪ Approval of Yervoy® (ipilimumab) to treat melanoma in 2011
  ▪ Japan approval of Opdivo® (nivolumab) to treat melanoma in 2014
  ▪ Approval of Keytruda® (pembrolizumab) in melanoma in 2014
  ▪ BLA and MAA filing by Amgen for T-Vec (talimogene laherparepvec), a first ever for a viral-based immunotherapy product

● Analysts predict that cancer immunotherapy market will grow from $1 billion to $35 billion in 10 years

● Medical opinion leaders expect active immunotherapy, including therapeutic vaccines, to become part of the therapeutic cocktail
  ▪ Potential to combine synergistically with immune checkpoint inhibitors

Yervoy® is a registered trademark of Bristol-Myers Squibb
Opdivo® is a registered trademark of Bristol-Myers Squibb
Keytruda® is a registered trademark of Merck Sharp & Dohme Corp
TRANSGENE – A LEADER IN VIRAL VECTOR-BASED IMMUNOTHERAPY

Viral vector platforms – a method for delivering genetic material into cells...

..used by Transgene in multiple ways in oncology and infectious diseases

Therapeutic Vaccines
Targeted delivery of tumoral or viral antigens to stimulate a specific immune response

Oncolytic Viruses
Targeted infection leads to cell lysis and death, and immune response

Therapeutic Payloads
Targeted delivery of suicide genes or chemotherapy enhancers
**IMMUNOTHERAPY: INNOVATIVE TREATMENT PARADIGM**
Transgene Programs are in both Active and Passive Immunotherapies

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**ACTIVE IMMUNOTHERAPY**

- **Restore immunity**
  - Therapeutic vaccines
  - Immunostimulatory molecule payloads

- **Increase tumor susceptibility to immune system**
  - Targeted cytotoxic payloads

**PASSIVE IMMUNOTHERAPY**

- **Remove immuno-suppression**
  - Checkpoint inhibitors
    - Eg anti PD1, PDL1

- **Remove resistance to lysis**
  - Oncolytic viruses

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**Synergistic approaches**

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**Immunotherapy expected to become a backbone for treating many cancers over next 10 years**
# Diversified Development Pipeline

Internal Platforms have Delivered Multiple Programs

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<th>Product</th>
<th>Indications</th>
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<th>Clinical Phase</th>
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<td><strong>ONCOLOGY</strong></td>
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<td>TG4010 (MVA-MUC1-IL2)</td>
<td>Non-small cell lung cancer</td>
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<td>Pexa-Vec (JX594/TG6006) (VV-TK-GM-CSF)</td>
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<td>TG4001 (MVA-HPV-IL2)</td>
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<td>TG6002 (VV-TK-RR-FCU1)</td>
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<tr>
<td>TG3003 (anti-CD-115 mAb)</td>
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<td><strong>INFECTIONOUS DISEASES</strong></td>
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<td>Chronic hepatitis B</td>
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<td>Various (MVA-TB)</td>
<td>Tuberculosis</td>
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TG4010 MUC1 TARGETED CANCER IMMUNOTHERAPY: Poised to Enter Phase 3 Clinical Testing

- Innovative therapeutic vaccine for the treatment of advanced non-small cell lung cancer (NSCLC) and other MUC1+ tumors
  - NSCLC area of large unmet medical need; accounts for more deaths than any other cancer type
- Promising progression-free survival (PFS) and preliminary overall survival (OS) data in advanced NSCLC presented at ESMO 2014 in September
- Phase 3 initiation plans in NSCLC advancing
- Mechanism of action and safety profile provide flexibility for potential combinations with many therapies, including immune checkpoint inhibitors
- Multiple drivers of exclusivity into late 2020s, early 2030s
TG4010 MUC1 TARGETED CANCER IMMUNOTHERAPY:
Inducing Innate and Adaptive Immune Responses to MUC1
Away from Tumor
TG4010: PHASE 2B PART OF PHASE 2B/3 TIME TRIAL
Randomized, Double-blind, Multi-center Trial

- **Primary endpoint:** PFS (to prospectively validate TrPAL biomarker)
- **Secondary endpoints:**
  - Overall Survival
  - Overall Response Rate
  - Duration of response
  - Safety

1. TG4010/placebo administered subcutaneously on Day 1 of 1st cycle, then weekly for 6 weeks, then once every 3 weeks until progression/discontinuation.
2. 21-day cycle; 4-6 cycles; Type of chemotherapy (with or without bevacizumab) depends on tumor histology and physician choice.

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- 222 Stage IV NSCLC patients
  - PS 0,1
  - MUC1+
  - No prior chemo

- **Randomized**

- Normal TrPAL (170)

- High TrPAL (52)

- **TG4010 (10^8 pfu)^1** + chemotherapy^2

- **Placebo^1** + chemotherapy^2

- Maintenance therapy (pemetrexed or erlotinib or bevacizumab) + TG4010 or placebo

[Diagram showing the flow of patients and treatment options]
TG4010 MUC1 TARGETED CANCER IMMUNOTHERAPY: Positive Data Presented at ESMO 2014

- Promising PFS and OS data in advanced NSCLC at ESMO - Consistency between PFS and OS results

- In patients with non-squamous disease, statistically significant improvement in PFS and clinically meaningful improvement in OS
  - Large subgroup – 88% of patient population in TIME trial
  - Phase 3 part of trial planned to enroll only patients with non-squamous disease

- Even more notable improvements in PFS and OS in subgroup of “low TrPAL” patients = potential utility of biomarker

- To date, over 350 patients have been treated with TG4010 in a number of clinical trials
  - TG4010 consistently well tolerated
TG4010: PHASE 2B TIME TRIAL RESULTS

Primary Endpoint

● **Primary objective**: PFS to prospectively validate the TrPAL predictive biomarker*
  - As recommended by the FDA, primary endpoint based on a Bayesian design: pooling PFS data from TIME Phase 2b trial and earlier study in NSCLC to accelerate time to results and with fewer patients

● **In Normal TrPAL group**, probability that TG4010 induces reduction in disease progression or death - i.e., hazard ratio (HR) <1 is 98.6%
  - Thus, Phase 2b part of TIME study after 144 events of progression passes Bayesian probability threshold of 95%

● **In High TrPAL group**, number of events needed to perform primary analysis not yet reached

● **All other analyses in study based on traditional Frequentist approach**

* The level of Triple Positive Activated Lymphocytes (TrPAL): CD16+CD56+CD69+ cells at baseline using a pre-defined threshold level, the so-called “upper limit of normal” or ULN; patients were classified as “normal” or “high” TrPAL using the ULN.

Quoix, E. et al. TIME: A Phase 2b/3 Evaluating TG4010 in Combination with First-line Therapy in Advanced Non-Small Cell Lung Cancer (NSCLC). Phase 2b results, ESMO 2014 Congress.
TG4010: PHASE 2B TIME TRIAL RESULTS
Non-squamous - Large Subgroup with Statistically Significant PFS Results

Quoix, E. et al. TIME: A Phase 2b/3 Evaluating TG4010 in Combination with First-line Therapy in Advanced Non-Small Cell Lung Cancer (NSCLC). Phase 2b results, ESMO 2014 Congress
TG4010: PHASE 2B TIME TRIAL RESULTS

Non-squamous - Large Subgroup with Compelling OS Results

OS analysis based on 56% of possible events

Quoix, E. et al. TIME: A Phase 2b/3 Evaluating TG4010 in Combination with First-line Therapy in Advanced Non-Small Cell Lung Cancer (NSCLC). Phase 2b results, ESMO 2014 Congress.
Progression-Free Survival

Low TrPAL: Even greater improvement with TG4010 seen in PFS and OS compared to overall non-squamous group

- The level of TrPAL cells at baseline as determined using a quartile approach; “low” TrPAL patients were in the three lowest quartiles.

Quoix, E. et al. TIME: A Phase 2b/3 Evaluating TG4010 in Combination with First-line Therapy in Advanced Non-Small Cell Lung Cancer (NSCLC). Phase 2b results, ESMO 2014 Congress.
TG4010: NEXT STEPS

- Positive interactions with regulatory authorities have helped finalize Transgene’s plan to move forward and initiate Phase 3 part of TIME trial
- Discussions ongoing with potential co-development and commercialization partners
- Plan to initiate in parallel trial combining TG4010 with immune checkpoint inhibitor
PEXA-VEC ONCOLYTIC VIROTHERAPY
Second Product in Preparation for Phase 3

- **Lead indication:** hepatocellular carcinoma (HCC, liver cancer)
  - Planning underway for Phase 3 trial
- **Potential opportunities in various other tumor types**
- **Transgene has development and commercialization rights in Europe, Commonwealth of Independent States and Middle East (>50 countries)**
PEXA-VEC ONCOLYTIC VIROTHERAPY
Three-pronged Mechanism of Action

Three complementary mechanisms of action for an “off-the-shelf” product

1. **Cancer cell oncolysis:**
   Infection, cell lysis and viral spread

2. **Tumor vascular shutdown:**
   Infection and cell lysis

3. **Active immunotherapy:**
   Tumor-specific immune response stimulation (GMCSF)

PEXA-VEC: KEY CLINICAL RESULTS
Clinical Activity Demonstrated in Several Trials

- More than 10 trials with >300 patients treated with Pexa-Vec in variety of tumor types, including liver, colorectal and kidney

- 30-patient dose-finding Phase 2 trial in HCC (80% of patients first-line)
  - Proof of concept for MOA: active immunotherapy
  - OS results - high dose versus low dose
    - Median OS: 14.1 (high dose) vs. 6.7 months (low dose)
    - Hazard Ratio = 0.41 (reduction in the risk of death by nearly 60%)
    - p = 0.029

Nature Medicine, Volume 19, Issue 2, February 2013
PEXA-VEC ONCOLOYTIC VIROTHERAPY
Development Plan

● Phase 3 trial in first-line HCC planned with goal of first patient in by mid-2015
  ▪ Large unmet medical need; only one treatment approved for this indication
  ▪ Pexa-Vec followed by sorafenib (Nexavar®) versus sorafenib alone
  ▪ Expected enrollment ~600 patients in Europe, North America and Asia
  ▪ 40% of costs borne by Transgene
  ▪ Orphan drug designation granted

● Additional exploratory trials planned
  ▪ With metronomic doses of cyclophosphamide in mainly breast cancer and soft tissue sarcoma (trial funded by INCa and sponsored by the Bergonié Institute)
  ▪ In pre-surgery (neo-adjuvant) setting in solid tumors
  ▪ In combination with immune checkpoint inhibitor
  ▪ Phase 1/2 trial in renal cell cancer in combination with sunitinib (Sutent®) being considered

Nexavar® is a registered trademark of Bayer HealthCare Pharmaceuticals, Inc.
Sutent® is a registered trademark of Pfizer.
TG1050 ADENOVIRUS-BASED IMMUNOTHERAPY
For Treatment of Chronic Hepatitis B, Major Unmet Medical Need

● Medical need:
  ▪ Chronic Hepatitis B causes 1-1.2 million deaths per year
  ▪ <10% of patients are cured, leading to lifelong antiviral therapies for most

● Current status:
  ▪ Pre-clinical package completed: capacity of TG1050 to induce robust, broad, long-lasting and cross-reactive T cells together with antiviral activity
  ▪ Potential to be used across Hepatitis B virus genotypes
  ▪ Pharmaceutical development and preparation for toxicity studies ongoing
  ▪ First-in-humans Phase 1 trial to start in next few months

● Strategy:
  ▪ First priority: with anti-viral treatment (SOC) to improve cure rate
  ▪ Other development: in combination with immuno-modulators and/or novel classes of antivirals
  ▪ Plan to enter into co-development partnership to maximize chances of success
## FINANCIALS
Transgene is Sufficiently Funded through 2015

### Balance sheet

**At September 30, 2014:**

- Cash and cash equivalents: **€ 84.1 million**

### Cash flow

- Cash burn for the 9 months ended September 30, 2014: **€ 26.5 million**

- **Cash burn guidance for FY 2014:**
  - **€ 45-50 million**
KEY MANAGEMENT
Solid Experience in Biopharmaceutical Industry

Philippe Archinard, PhD
Chairman and Chief Executive Officer

Eric Quéméneur, PhD
Executive VP & VP, Research & Development

Nathalie Adda, MD
VP and Chief Medical Officer

Jean-Philippe Del
VP Finance

Colin Freund, MBA
VP Business Development

Hemanshu Shah, PhD, MBA
VP Medical Affairs
OWNERSHIP STRUCTURE

1. As of March 14, 2014
2. As of June 30, 2014

- 38.4 million shares outstanding
- + 1.4 million options and free shares

- Institut Mérieux: 52%
- Institutional investors: 30%
- Retail investors: 18%

1. Institut Mérieux
2. Institutional investors
3. Retail investors

38.4 million shares outstanding + 1.4 million options and free shares
POTENTIAL NEWSFLOW – NEXT 12 MONTHS

● **TG4010:**
  - Present more mature results of Phase 2b part of TIME trial at major medical meetings
  - Secure development and commercialization partnership
  - Initiate Phase 3 part of TIME trial in NSCLC
  - Initiate combination trial with immune checkpoint inhibitor

● **Pexa-Vec:**
  - Initiate Phase 3 trial in first-line HCC
  - Initiate additional clinical trials in various indications, including combination trial with immune checkpoint inhibitor

● **TG1050:**
  - Initiate first-in-humans study

● **Pipeline:**
  - Continue to advance pre-clinical candidates, including 2nd generation oncolytic immunotherapeutic TG6002 and monoclonal antibody TG3003
TRANSGENE – POSITIONED FOR SUCCESS

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- Compelling near-term partnering opportunity with most advanced program - cancer product candidate, TG4010
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