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): January 5, 2021

bluebird bio, Inc.
(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-35966**	**13-3680878**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
60 Binney Street, Cambridge, MA		**02142**
(Address of Principal Executive Offices)		**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (339) 499-9300

Not Applicable
(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 Instructions 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))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	BLUE	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company 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).

Emerging growth company ☐

If 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 revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

bluebird bio, Inc. (the "Company" or "bluebird") intends to share with investors the amount of cash, cash equivalents and marketable securities it had on hand as of December 31, 2020. Although the Company has not finalized its financial results for the twelve months ended December 31, 2020, the Company currently anticipates that its cash, cash equivalents and marketable securities were approximately $1.3 billion as of December 31, 2020. This information is unaudited and does not present all information necessary for an understanding of the Company's financial condition as of December 31, 2020 and its results of operations for the twelve months ended December 31, 2020. The Company expects to announce its full results for the twelve months ended December 31, 2020 on or before March 1, 2021.

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On January 5, 2021, the board of directors (the "Board") of the Company upon the recommendation of the Board's Nominating and Corporate Governance Committee, appointed Ramy Ibrahim, M.D. as a director of the Company's Board, effective January 7, 2021. Dr. Ibrahim will serve as a Class I director, to serve until the Company's annual meeting of stockholders in 2023. Dr. Ibrahim was also appointed to serve on the Nominating and Corporate Governance Committee of the Board.

Dr. Ibrahim is a recognized leader in clinical development in immunotherapy and cell therapy. He is currently serving as a consultant for the Parker Institute for Cancer Immunotherapy (PICI) where he was recently the Chief Medical Officer and built the clinical capabilities within the institute as well as worked with renowned cell therapy experts to support building world class cell therapy startups. Before joining PICI, Dr. Ibrahim was the vice president and Global Therapeutic area head for Immuno-Oncology clinical development for AstraZeneca/MedImmune, leading the global clinical team developing multiple immunotherapies. In addition, as a member of the Bristol-Myers Squibb Immuno-oncology program, he served on the Yervoy (ipilimumab) clinical team supporting the program from early phase II through multiple global launches of the first FDA-approved immune checkpoint inhibitor. In addition to his engagement with investment firms, Dr. Ibrahim also serves on the Scientific Advisory Board of Harpoon and on the Board of Directors for Surface Oncology.

In connection with this appointment, on January 7, 2021 the Company granted Dr. Ibrahim a stock option to purchase 4,500 shares of the Company's common stock, par value $0.01 per share ("Common Stock"), at a purchase price equal to the closing price per share of the Common Stock on the NASDAQ Global Select Market on January 7, 2021, and restricted stock units for 2,250 shares of Common Stock. The stock options and restricted stock units vest ratably over three years in annual installments.

There are no arrangements or understandings between Dr. Ibrahim and any other persons pursuant to which he was selected as a director, and Dr. Ibrahim has no direct or indirect material interest in any transaction required to be disclosed pursuant to Item 404(a) of Regulation S-K.

On January 9, 2021, David P. Schenkein, M.D. notified the Company of his resignation as a Class III director from the Company's Board and Nominating and Corporate Governance Committee of the Board effectively immediately. Dr. Schenkein's resignation was not caused by any disagreement with the Company on any matter relating to the Company's operations, policies or practices.

In addition, on January 11, 2021, bluebird announced certain planned future changes in the composition of its board of directors and management in connection with, and contingent upon successful completion of its announced intent to separate its core severe genetic disease and its oncology businesses into two independent, publicly-traded companies (bluebird and Oncology Newco, respectively). Effective upon the separation, which is expected to be completed by the end of 2021: Nick Leschly would become chief executive officer of Oncology Newco and executive chair of the board of directors of bluebird, and step down from his position as chief executive officer of bluebird; Daniel Lynch would become chair of the board of directors of Oncology Newco, and step down from his position as chair of the board of directors of bluebird; and Andrew Obenshain, 47, would become chief executive officer of bluebird. Mr. Obenshain joined bluebird in 2016 as its senior vice president, Head of Europe, and since then has served in roles of increasing responsibility and currently as president of bluebird's severe genetic disease business. Prior to joining bluebird, Mr. Obenshain was the General Manager of France and Benelux at Shire in Paris, France, overseeing a portfolio including seven rare disease products.

The Company plans to announce, at a later date, additional management team members and members of the board of directors for each of bluebird and Oncology Newco to be effective upon the separation.

This Current Report on Form 8-K contains forward-looking statements. Investors are cautioned not to place undue reliance on these forward-looking statements, including statements about the planned separation, the timing of the separation, and leadership of each of bluebird and Oncology Newco. Each forward-looking statement is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statement. Applicable risks and uncertainties include those related to the possibility that we may not complete the separation on the terms or timeline currently

contemplated if at all, achieve the expected benefits of a separation, and that a separation could harm our business, results of operations and financial condition; the risk that the transaction might not be tax-free; the risk that we may be unable to make, on a timely or cost-effective basis, the changes necessary to operate as independent companies; Oncology Newco's lack of independent operating history and the risk that its accounting and other management systems may not be prepared to meet the financial reporting and other requirements of operating as an independent public company; the risk that dedicated financial and/or strategic funding sources may not be available on favorable terms; the risk that a separation or announcement thereof may adversely impact our ability to attract or retain key personnel; the risk that a separation may adversely impact the effectiveness of development and commercialization efforts by us and our partners; the risk of possible disruption to our businesses as a result of the announcement or pendency of the separation; and the risks listed under the heading "Risk Factors" and elsewhere in bluebird's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, and in bluebird's subsequent SEC filings. These forward-looking statements (except as otherwise noted) speak only as of the date of this Current Report on Form 8-K, and bluebird undertakes no obligation to update these forward-looking statements.

Item 7.01 Regulation FD Disclosure.

On January 11, 2021, bluebird conducted an investor webcast announcing its intent to separate its core severe genetic disease and oncology businesses into independent publicly-traded companies. A copy of the presentation is being furnished as Exhibit 99.1, which is incorporated herein by reference.

The information in this Current Report on Form 8-K pursuant to Item 7.01 is intended to be furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section. It may only be incorporated by reference in another filing under the Exchange Act or the Securities Act of 1933, as amended, if such subsequent filing specifically references the information furnished pursuant to Item 7.01 of this Current Report.

Item 8.01 Other Events.

On January 11, 2021, bluebird issued a press release announcing its intent to separate its core severe genetic disease and oncology businesses into independent publicly-traded companies.

The full text of bluebird's press release regarding the announcement is filed as Exhibit 99.2 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Slides presented to Investors furnished by bluebird bio, Inc. on January 11, 2021.
99.2	Press release issued by bluebird bio, Inc. on January 11, 2021.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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.

Date: January 11, 2021

bluebird bio, Inc.

By: /s/ Jason F. Cole
Jason F. Cole
Chief Operating and Legal Officer

Exhibit 9

bluebirdbio®
recode for life™

Recoding For The Future

January 2021 Company Presentation

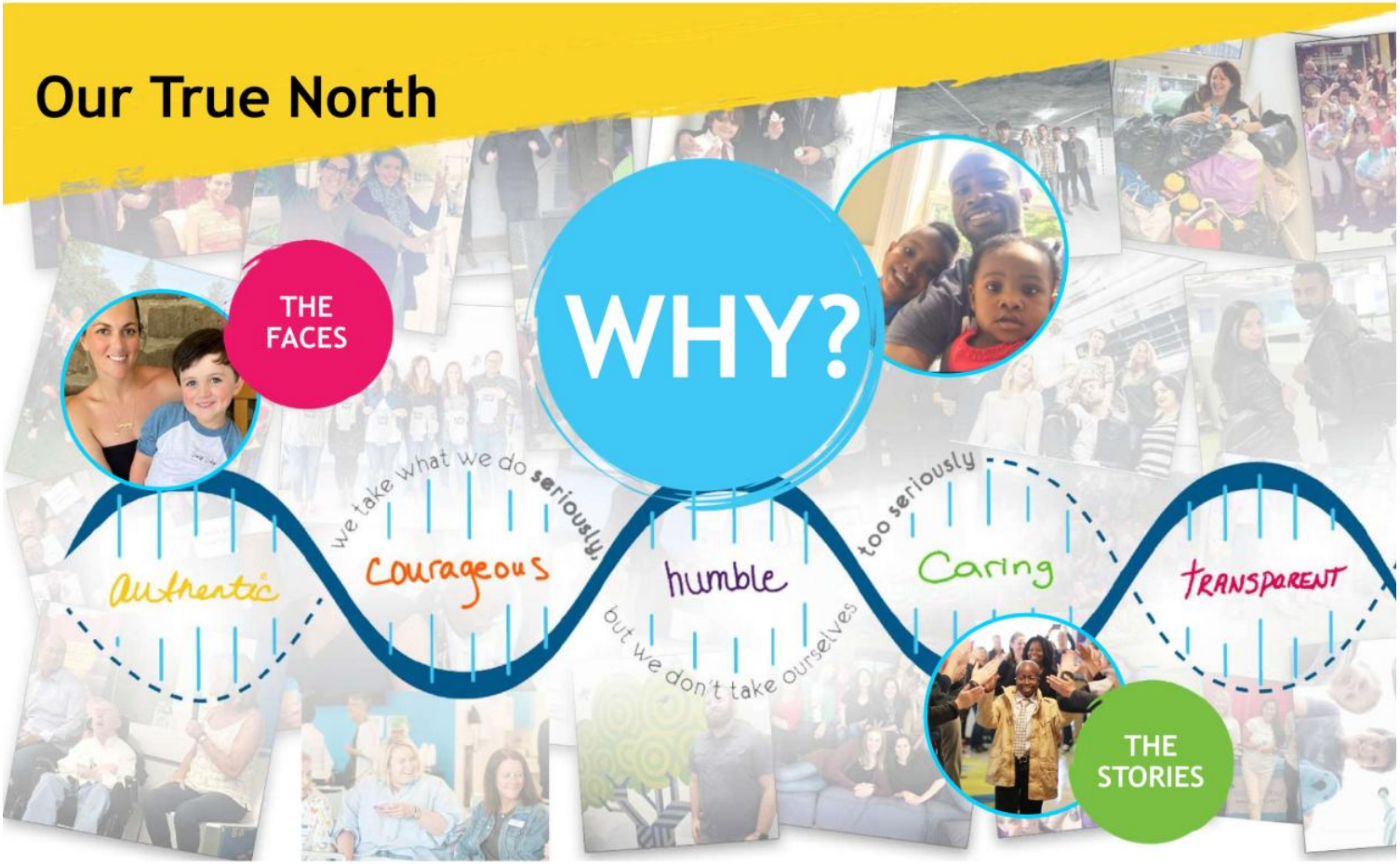
LET'S RECODE THE STOR

NASDAQ: BLUE

Forward-looking Statements

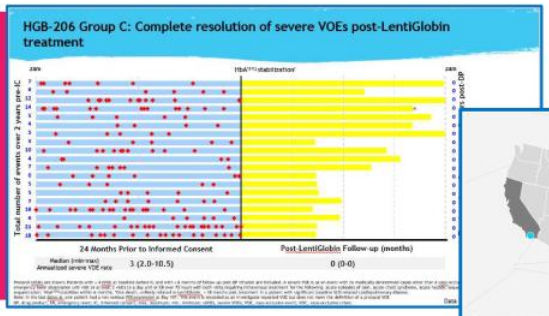
These slides and the accompanying oral presentation contain forward-looking statements and information. The use o words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “potential,” or “continue,” and other similar expressions are intended to identify forward-lookir statements. For example, all statements we make regarding the initiation, timing, progress and results of our preclinical and clinical studies and our research and development programs, our ability to advance product candidat into, and successfully complete, clinical studies, the timing or likelihood of regulatory filings and approvals, and the timing and likelihood of entering into contracts with payors for value-based payments over time or reimbursement approvals, and our commercialization plans for approved products are forward looking. All forward-looking statemen are based on estimates and assumptions by our management that, although we believe to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected. These statements are also subject to a number of material risks and uncertainties that are described in our most recent quarterly report on Form 10-Q, as well as our subsequer filings with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which it was made. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

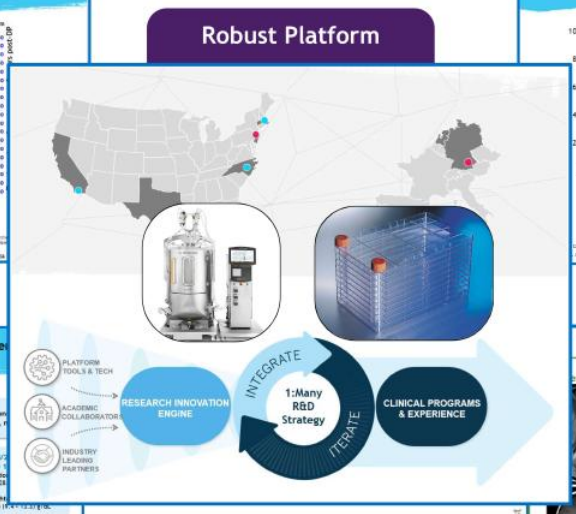
Our True North

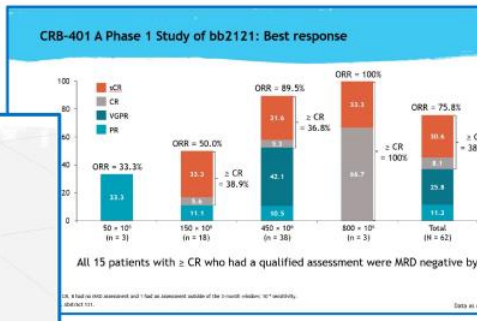


4 for 4: A Decade of Advancing Programs Through the Clinic to Deliver Life-Changing Medicines to Patients

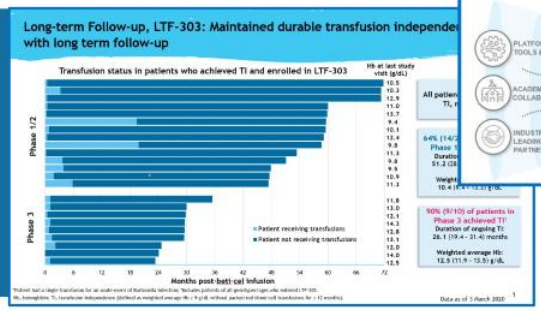
LentiGlobin for SCD

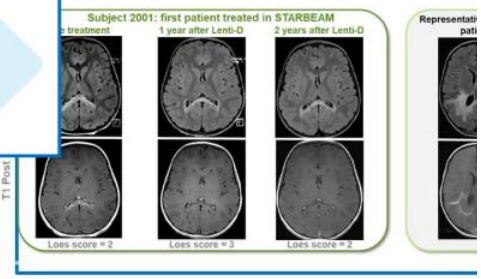




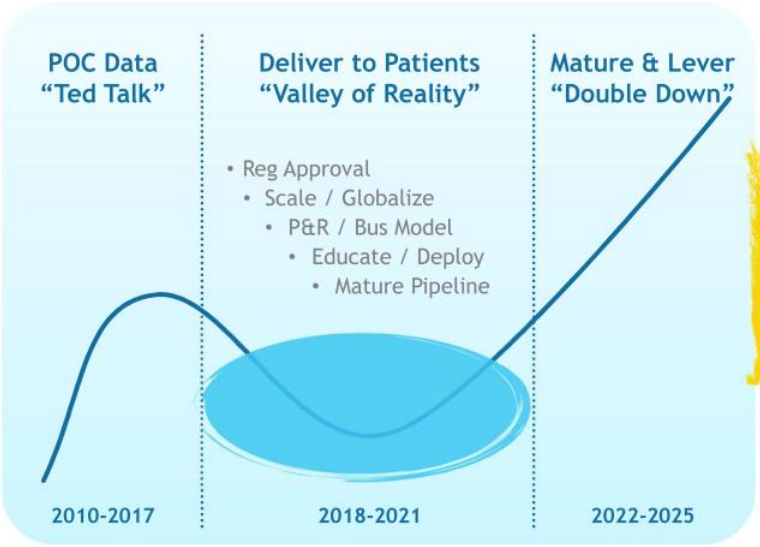


LentiGlobin for TDT





2020 Silver Lining: De-risked "Valley Crossing" and Ready to Deliver for Pati
Across All Products



2020 - The Foundation is Laic

- ✓ **Data:** Consistent, durable, differentiatin
- ✓ **Regulatory:** Clarified and de-risked execution plan
- ✓ **Capabilities:** Clinical and commercial manufacturing established
- ✓ **Pipeline:** Platform built, INDs on the hor
- ✓ **Financial:** Well funded, revenues coming
- ✓ **Team:** Battle tested & digging in

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Unlocking Value for Patients and Shareholders

bluebird plans to separate into two companies

Optimize Needs
Support differentiated strengths and strategic needs

Sharpen Focus
Drive deeper commitment and capability to deliver on significant catalysts ahead

Dedicated Leadership
Fit for purpose and 100% committed therapeutic area expertise

Simplify Ops
Remove complexity and double down differentiated culture

BLUE SGD

SCD | TDT | CALD | Pipeline

- Deliver 3 potentially-curative products to patients
- Prove commercial model
- Scale, leverage, expand the product platform

BLUE ONCO

2121/7 | NextGen MM | NHL | AML | Solids

- Launch ide-cel to deliver for MM patients
- Advance MM earlier lines & next-gen
- Optimize product engine. Deliver 1-2 INDs per year

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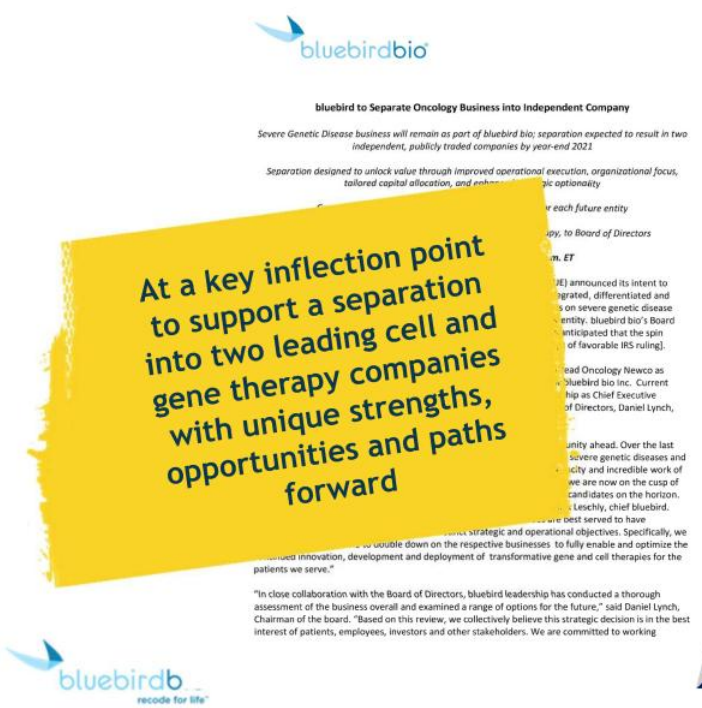
Launching Two Independent, Fully Integrated Commercial Stage Companies



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bluebird to Separate Oncology Business into Independent Company

Severe Genetic Disease business will remain as part of bluebird bio; separation expected to result in two independent, publicly traded companies by year-end 2021

Separation designed to unlock value through improved operational execution, organizational focus, tailored capital allocation, and enhanced strategic optionality

...r each future entity

...ipy, to Board of Directors

...m. ET

...VE) announced its intent to ...grated, differentiated and ...s on severe genetic disease ...entity. bluebird bio's Board ...nticipated that the spin ... of favorable IRS ruling].

...ead Oncology Newco as ...bluebird bio Inc. Current ...hip as Chief Executive ...f Directors, Daniel Lynch,

...unity ahead. Over the last ...severe genetic diseases and ...city and incredible work of ...we are now on the cusp of ...candidates on the horizon. ... Leschly, chief bluebird. ...are best served to have ...strategic and operational objectives. Specifically, we ... to double down on the respective businesses to fully enable and optimize the ...ed innovation, development and deployment of transformative gene and cell therapies for the patients we serve."

"In close collaboration with the Board of Directors, bluebird leadership has conducted a thorough assessment of the business overall and examined a range of options for the future," said Daniel Lynch, Chairman of the board. "Based on this review, we collectively believe this strategic decision is in the best interest of patients, employees, investors and other stakeholders. We are committed to working

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At a key inflection point to support a separation into two leading cell and gene therapy companies with unique strengths, opportunities and paths forward

Spin out bluebird oncology

Create two independent publicly traded companies

Anticipated tax-free transaction to close by EOY 2021

With ~$1.3B in cash, intent is for both companies to have sufficient runway at separation

BLUE SGD:	CEO - Andrew Obenshain
	Exec Chair - Nick Leschly
BLUE ONCO:	CEO - Nick Leschly
	Chair - Dan Lynch

Deliver For Patients Now.

Opportunity to Unlock Value with Increased Focus on Path to Patients & Commercialization

SGD Principles

- **FOCUS: Execute near-term catalysts.** Filings & launches.
- **DELIVER: Prove commercial model.** Novel pricing and reimbursement model for revenues in EU and US.
- **GENERATE: Optimize COGS and reduce costs.** Leaner operations fit for commercialization.
- **EXPAND: Leverage & expand.** Current indications and future expansion.

Execute to Plan

- ✓ Dedicated leadership and team
- ✓ Refined scope and reduced operational complexity
- ✓ Well-funded through anticipated major inflections
- ✓ Enhanced strategic flexibility and optionality to optimize potential

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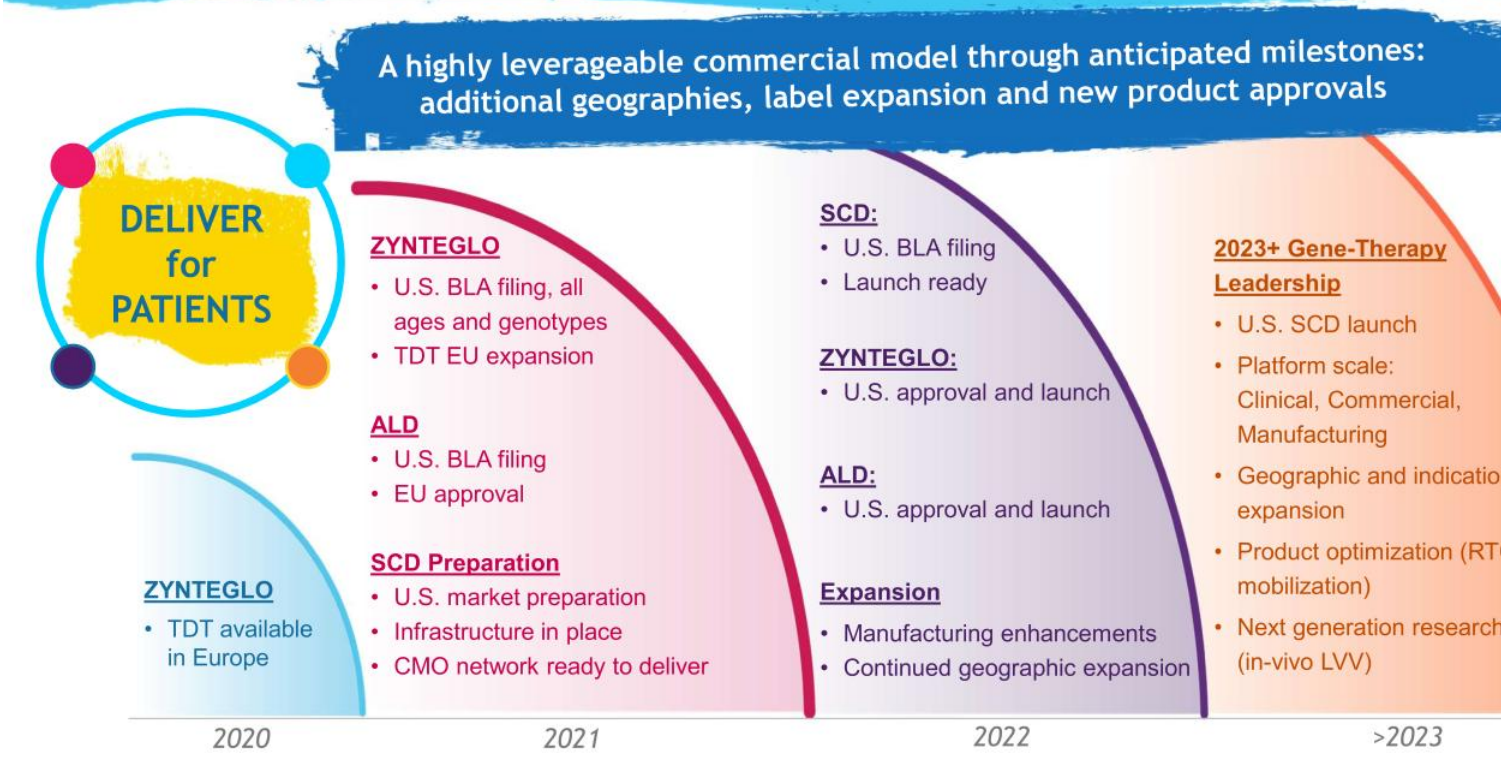
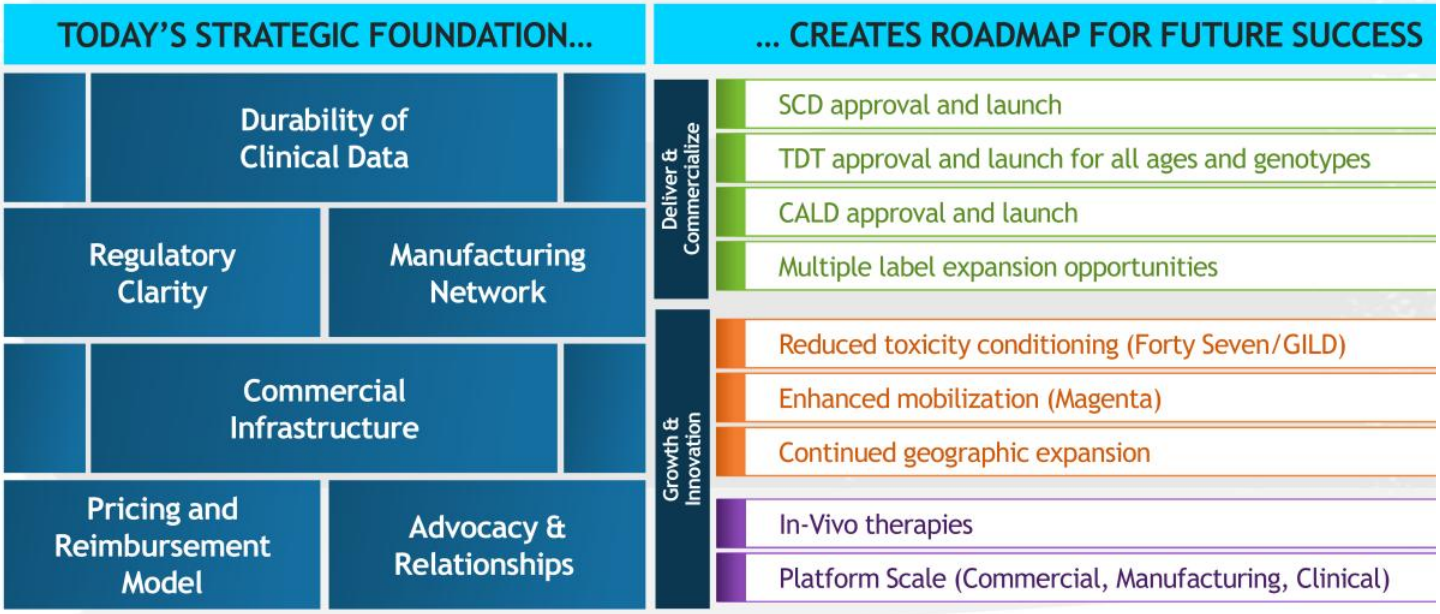
Vision to Set the Standard for Successful Gene Therapy Commercialization



Foundational Building Blocks in Place with a De-risked Business Plan



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Transformative Treatments. Compelling Business.

Multi-billion dollar market opportunity

Manufacturing and Commercial Leverage

Eligible Patients Anticipated on Label

Meaningful competitive advan in TDT and SCD:

- Significantly longer safety foll
- Significantly longer durability
- Regulatory clarity
- Experience with manufacturi scale-up
- Commercial infrastructure in
- SCD efficacy that will be extr difficult to improve upon

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Launch Time.
ide-cel Just
The Beginning.

Oncology Vision: Taking Flight

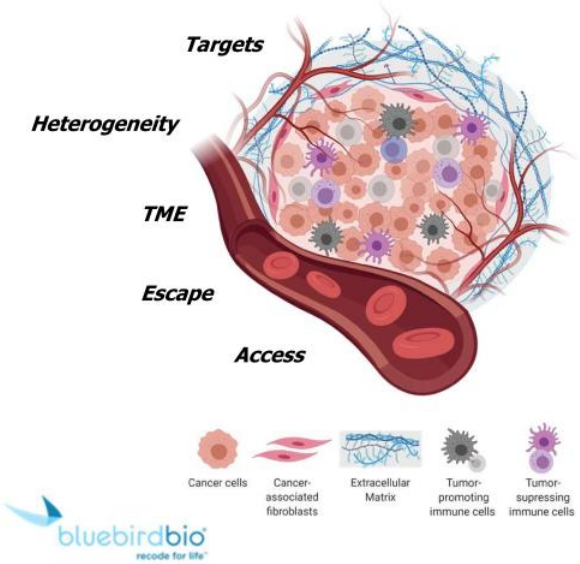
blue ONCOLOGY

Obsessed with disruptive next-gen product cycle to create cures for cancer patients

1. **LAUNCH: Deliver ide-cel** for multiple myeloma patients
2. **DISRUPT: Advance** multiple myeloma into earlier lines and next-gen therapies
3. **CREATE: Optimize** product engine to **deliver 1-2 IND per year**
4. **CRACK the solid tumors code:** Deliver differential laye tech portfolio with best of breed partners
5. **BUILD & PARTNER: Mobilize cutting edge capabilities** to enable launch goals (e.g., manufacturing)

Unlocking the Full Potential for Cellular Therapy in Oncology

Complex problem….. ***…..demands a multi-part solution***



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Broad integrated tech & Cellular process development enables designed solutions

Clinical & correlative data educating biological hypothesis

World-class LVV, mRNA & DP manufacturing capabilities

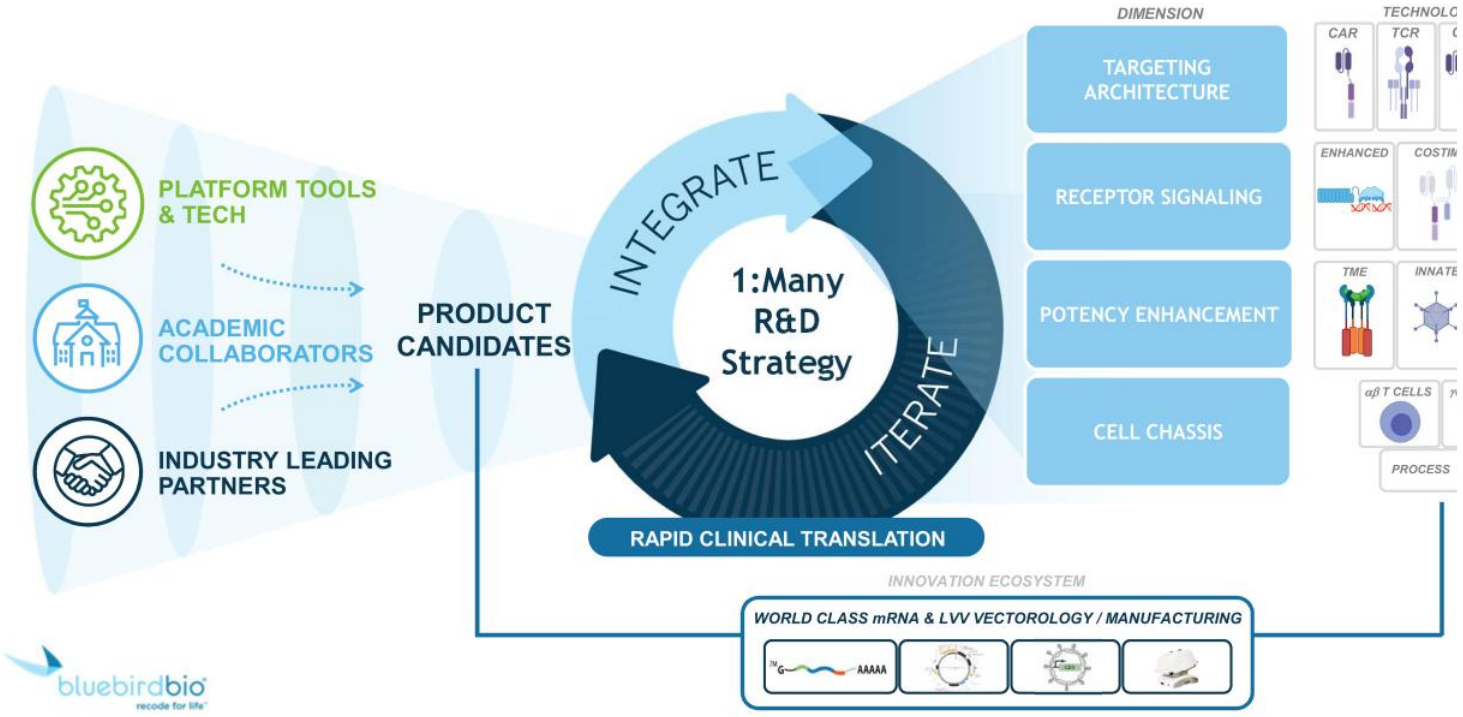
Rules
"The Rosetta Stone"

Platforms & Technology

Ecosystem

One-to-Many Strategy: Recoding Traditional R&D

Nextgen Product Cycling Engine Designed to Rapidly Build, Test, Learn, and Improve



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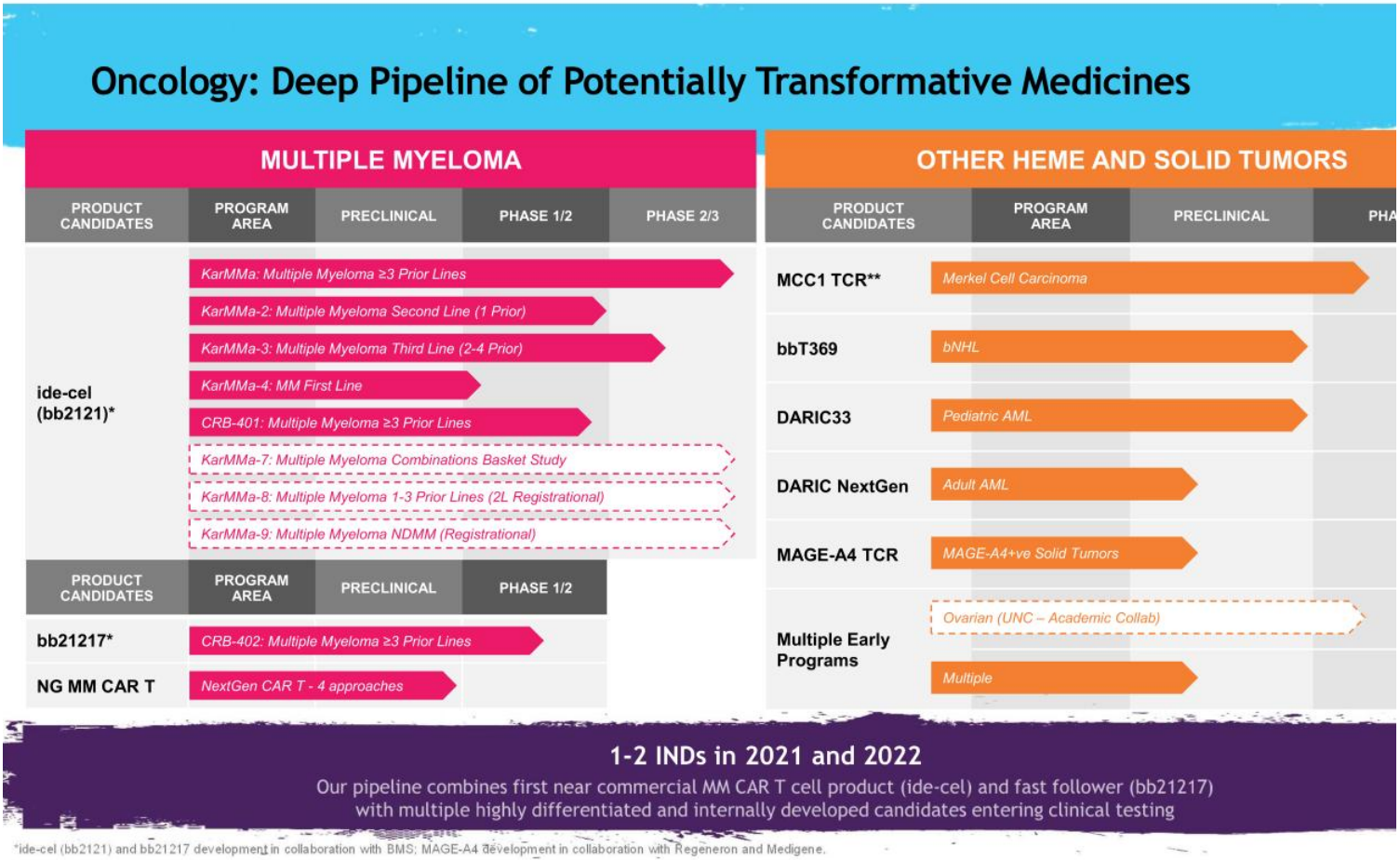
Oncology: Deep Pipeline of Potentially Transformative Medicines



1-2 INDs in 2021 and 2022

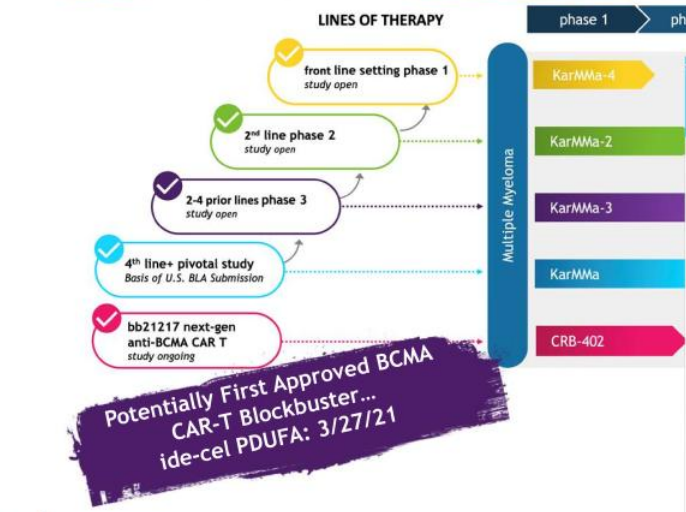
Our pipeline combines first near commercial MM CAR T cell product (ide-cel) and fast follower (bb21217) with multiple highly differentiated and internally developed candidates entering clinical testing

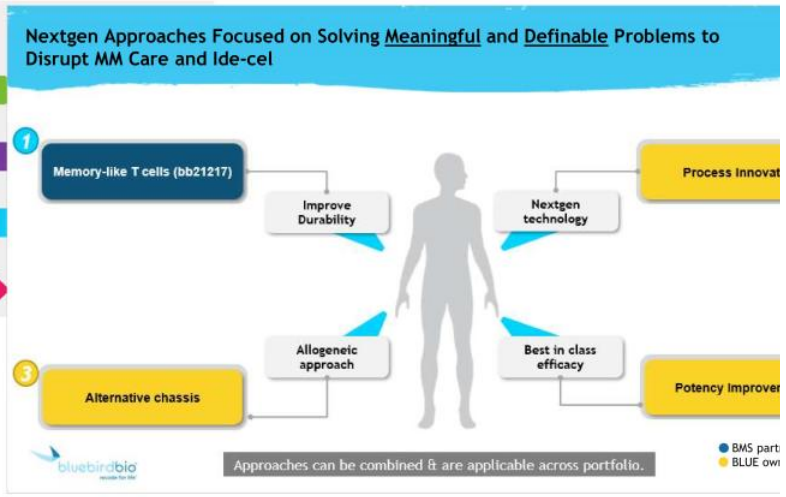
*ide-cel (bb2121) and bb21217 development in collaboration with BMS; MAGE-A4 development in collaboration with Regeneron and Medigene.

Delivering to Patients: Our Broad and Deep Approach in Multiple Myeloma

1

Advancing into earlier lines of therapy and continuing to innovate





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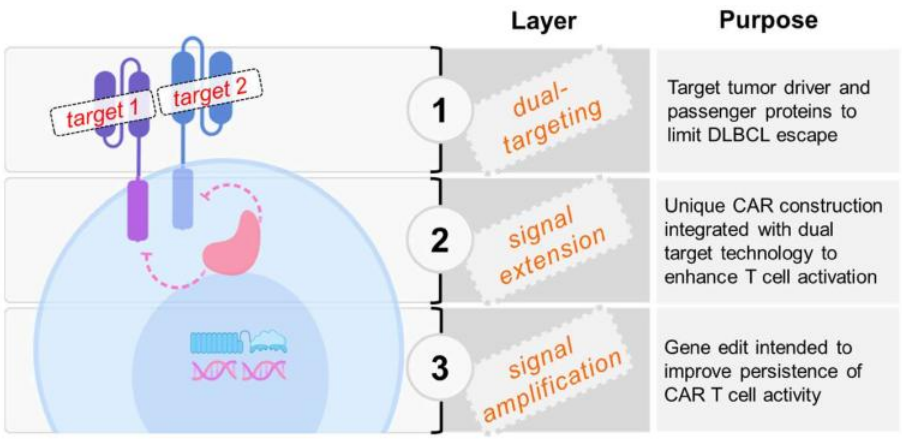
bbT369: Multi-layered Enhancements to Deliver Improved Potency and Patient Outcomes in bNHL



	Layer	Purpose
1	dual-targeting	Target tumor driver and passenger proteins to limit DLBCL escape
2	signal extension	Unique CAR construction integrated with dual target technology to enhance T cell activation
3	signal amplification	Gene edit intended to improve persistence of CAR T cell activity

Product designed to overcome mechanisms thought to limit efficacy of existing CAR T therapies and mediate potent anti-tumor activity with the goal of driving deep and durable responses in B-NHL patients

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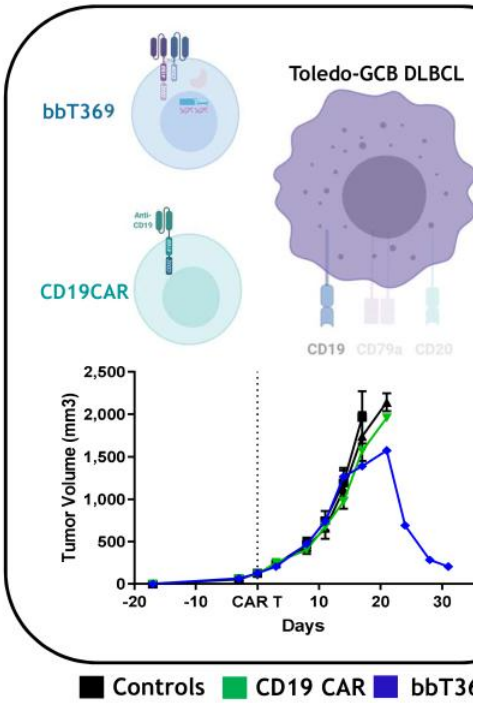


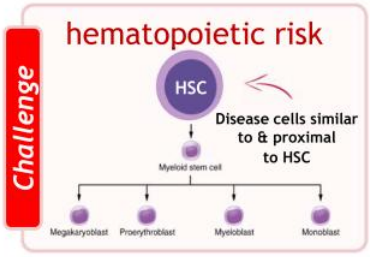
CD33 Targeted Regulatable CAR T (DARIC33)

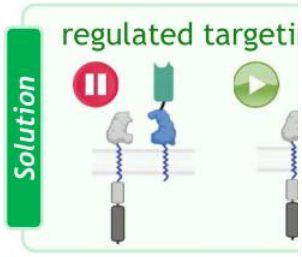
Problem

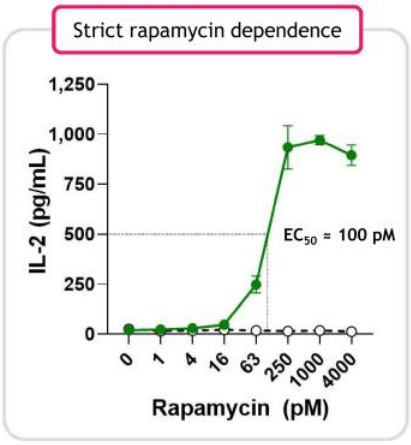
- Substantial unmet need in AML
- Proximity of disease to HSCs = hematopoietic risk
- *CAR T cell that spares HSCs could transform AML*

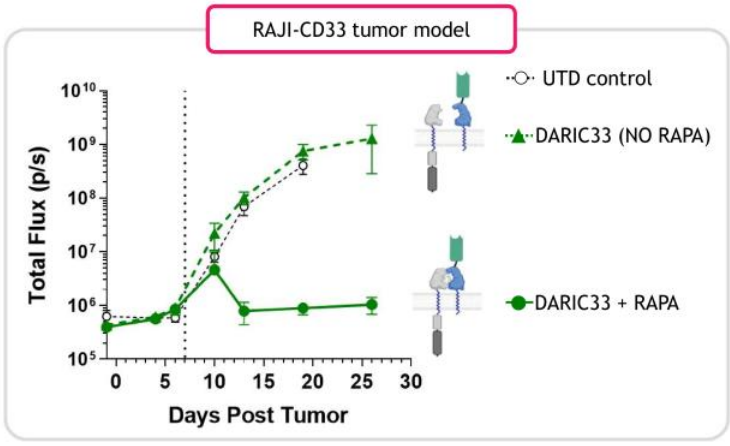
Hypothesis

- Targets are well described/validated, but…
- …aggressively targeting AML requires 'pausing'
- *DARIC enables drug-controlled ON/OFF state*









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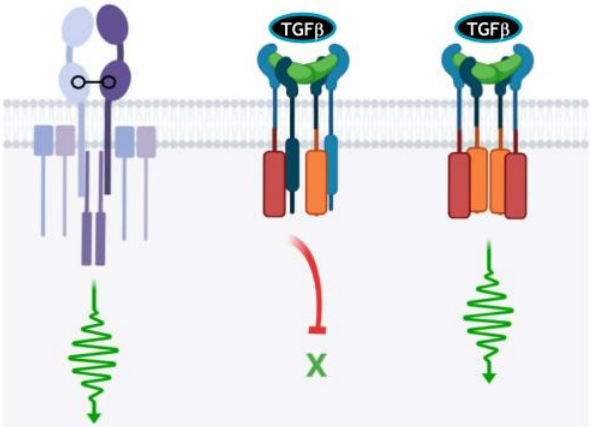
Earlier Product Concept: Superior MAGE-A4 TCR + TGFβ Switch Receptor*

Product Concept

Engineered TCR with enhanced potency

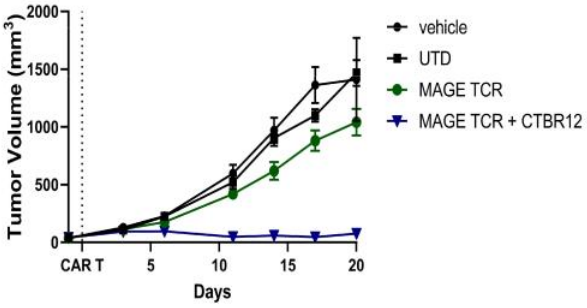
Switch Receptor neutralizes TGFβ

Switch Receptor activates IL12R signaling



Validating Data

MAGEA4 TCR + Switch Receptor provides tumor control in a human melanoma mouse model



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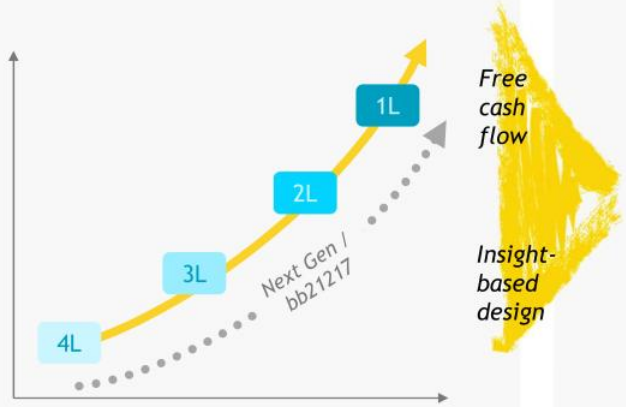
** In collaboration with Regeneron and Medigene*

BLUE Oncology Vision: An Innovative Cell Therapy R&D Company with First-in-Class BCMA Potential Blockbuster

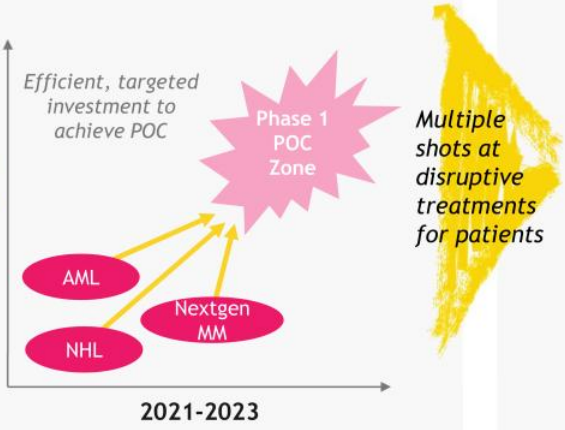
1 The Cornerstone

First Approved BCMA CAR-T with Blockbuster Potential



2 The Crown Jewel

IND Engine: Lighting the Fuse on Un-incremental Treatments



3 BLUE Oncology

By 2025, the lea oncology cell the company

- Significant and growing ide-ce revenue
- Path to financ sustainability
- Strategic optionality

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Time to Run in 2021…
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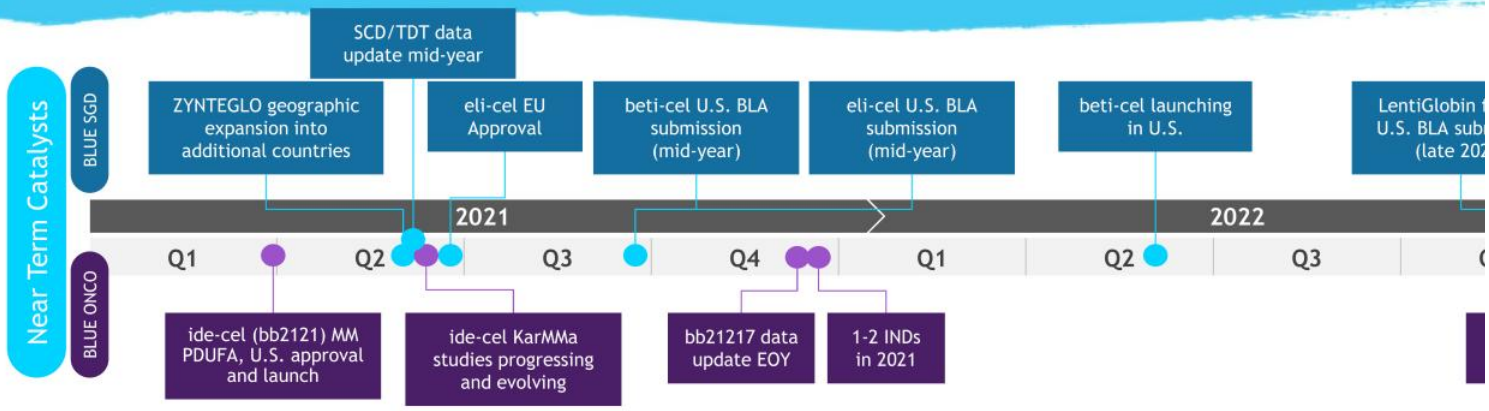
Significant Near-term Catalysts Ahead for Each Company



5-Year Vision

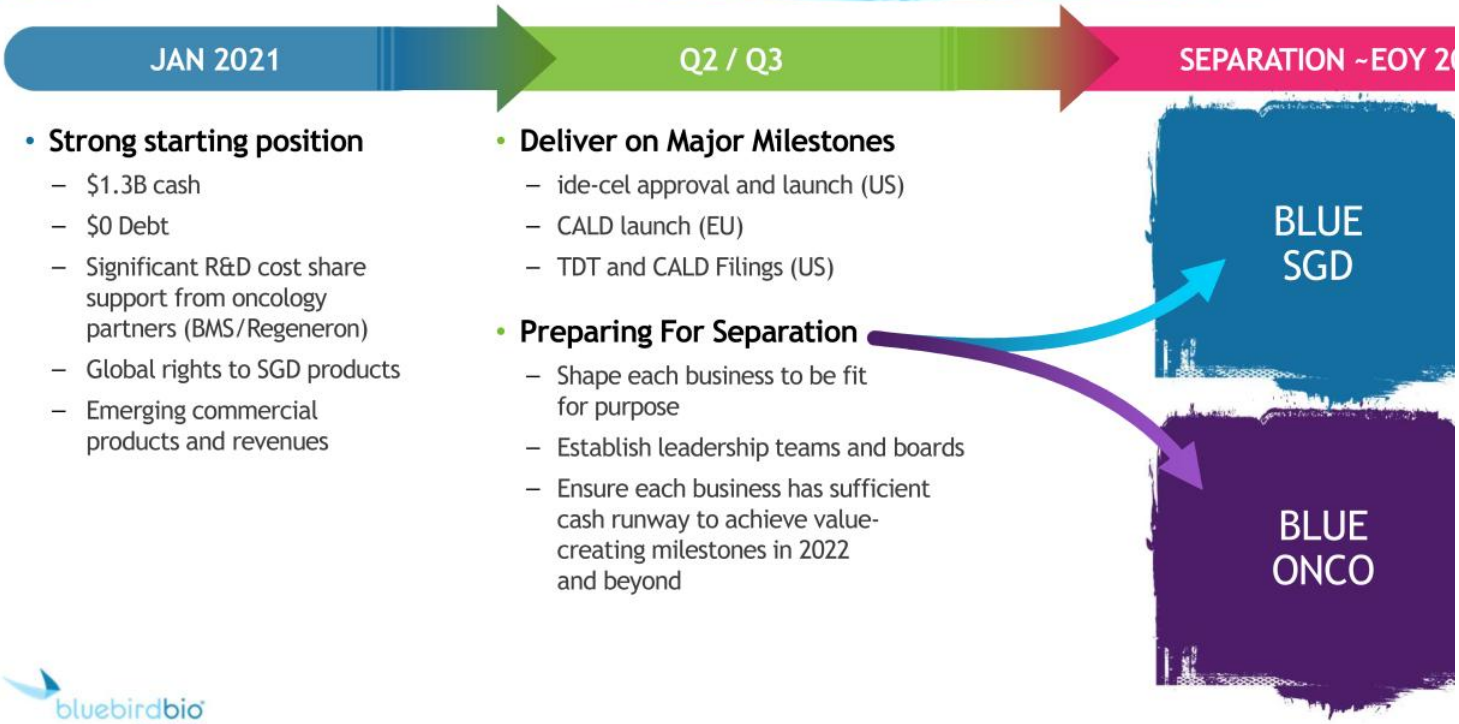
A HIGHLY LEVERAGEABLE PLATFORM AND COMMERCIAL MODEL

- 3 products successfully to market
- Global footprint
- Path to profitability and capital markets independence

BEST IN CLASS PROGRAMS & THERAPIES

- Multiple products and next-gen innovation
- Multiple shots at disruptive treatments for patients
- Strategic optionality

Financial Overview: Launching Each Business from a Position of Financial Strength



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Re-shaping bluebird to Deliver over Next Five Years

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Simple Vision; Profound Mission

RADICAL CARE

We care in a way that's intense and truly sets us apart.

THIS IS PERSONAL

Gene therapy is about saving lives one person at a time. And we are, each of us, personally all in.

PIONEERS WITH PURPOSE

We're exploring new frontiers for the sake of patients.

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Exhibit 99.2

bluebird bio to Separate Oncology Business into Independent Company

Severe Genetic Disease business will remain the focus of bluebird bio, Inc.; separation expected to result in two independent, publicly traded companies by year-end 2021

Separation designed to unlock value through improved operational execution, organizational focus, tailored capital allocation, and enhanced strategic optionality

Company announces CEO and Chair of the Board for each future entity

bluebird bio appoints Ramy Ibrahim, M.D., Leader in Cancer Immunotherapy, to Board of Directors

Company to Host Webcast Today at 8:00 a.m. ET

CAMBRIDGE, Mass.— (BUSINESS WIRE)— January 11, 2021 - **bluebird bio, Inc.** (Nasdaq: BLUE) announced its intent to separate its severe genetic disease and oncology businesses into differentiated and independent publicly traded companies. bluebird bio, Inc. will retain focus on severe genetic disease (SGD) and will launch its oncology business ("Oncology Newco") as a new entity. bluebird bio's Board of Directors approved the intent to separate into two companies and it is anticipated that the spin out of Oncology Newco is to be tax-free to shareholders, subject to receipt of a favorable Internal Revenue Service (IRS) ruling.

Upon completion of the separation, current chief bluebird, Nick Leschly, will lead Oncology Newco as Chief Executive Officer and will take on the role of Executive Chair for bluebird bio, Inc. Current President of the SGD business, Andrew Obenshain will continue his leadership as Chief Executive Officer of bluebird bio, Inc. Further, current Chair of bluebird's Board of Directors, Daniel Lynch, will become Chair of the Board for Oncology Newco.

"We are excited and energized to begin this new year with so much opportunity ahead. Over the last decade, bluebird bio has pioneered development of gene and cell therapies for severe genetic diseases and oncology - delivering transformative outcomes for patients. Through the tenacity and incredible work of our bluebirds, our first commercial product is now approved in Europe and we are now on the cusp of several potential product approvals with a strong pipeline of earlier oncology research candidates on the horizon. This is a position few biotech companies have been able to attain," said Nick Leschly, chief bluebird. "After careful strategic review, it is clear to us that the two businesses are best served by independent leadership and teams to drive distinct strategic and operational objectives. Specifically, we believe it is the right time to double down on the respective businesses to fully enable and optimize the continued innovation, development and deployment of transformative gene and cell therapies for the patients we serve."

"In close collaboration with the Board of Directors, bluebird bio leadership has conducted a thorough assessment of the business overall and examined a range of options for the future," said Daniel Lynch, Chair of bluebird bio's Board of Directors. "Based on this review, we collectively believe this strategic decision is in the best interest of patients, employees, investors and other stakeholders. We are committed to working together through this transformative process to ensure each company is optimized with the right teams in place for progressing these therapies through the regulatory process into commercialization, harnessing the power of the pipeline to continue creation of innovative medicines, establishing and rapidly growing product revenue, and creating value for shareholders."

Launching Severe Genetic Disease and Oncology for Bold Futures
bluebird bio intends to ensure both SGD and Oncology Newco are established as independent organizations with enhanced therapeutic focus and strong financial foundations. The company believes this approach will provide both entities with the ability to achieve the following:

- Enhanced resource allocation and capital considerations for each company

- Therapeutic expertise and focus to more effectively execute and deliver on milestones
- Streamlined and simplified operations
- Tailored investment theses to attract an appropriately suited shareholder base
- Sustained *patients first* culture and innovation mindset
- Increased strategic flexibility

By establishing this foundation in two new environments, the company believes each entity will be in a stronger position to deliver on their goals:

Severe Genetic Disease
- Focus on delivery of *Core 3* therapies in β-thalassemia, cerebral adrenoleukodystrophy and sickle cell disease in the United States and Europe
- Expand access and reimbursement for our commercial product, ZYNTEGLO (betibeglogene autotemcel), in Europe
- Increase addressable patient populations through geographic expansion, label expansions, and product profile enhancement
- Build on our expertise in gene therapy manufacturing through commercialization, significant process enhancements, and next generation technologies
- Continue to explore innovative tools and technologies to ultimately bring these transformative medicines to more patients

Oncology Newco
- Support commercial success of investigational B-cell maturation antigen (BCMA) directed chimeric antigen receptor (CAR) T cell therapy, idecabtagene vicleucel (ide-cel), in multiple myeloma and continued development of investigational bb21217 product candidate; advancing into earlier lines and continuing to innovate
- Deliver on the oncology pipeline of cellular therapies with a focus on non-Hodgkin's lymphoma, acute myeloid leukemia, next-generation multiple myeloma and solid tumors
- Advance next generation product cycling engine designed to rapidly build, test, learn and improve with an overarching goal of 1-2 investigational new drugs (INDs) in each of 2021 and 2022

bluebird bio Adds Additional Oncology Expertise to Board of Directors
As bluebird bio continues to build out therapeutic expertise within its Board of Directors, the company has appointed Ramy Ibrahim, M.D. to its Board of Directors. Dr. Ibrahim is a recognized leader in clinical development in immunotherapy and cell therapy. He is currently serving as a consultant for the Parker Institute for Cancer Immunotherapy (PICI) where he was recently the Chief Medical Officer and built the clinical capabilities within the institute as well as worked with renowned cell therapy experts to support building world class cell therapy startups. Before joining PICI, Dr. Ibrahim was the vice president and Global Therapeutic area head for Immuno-Oncology clinical development for AstraZeneca/MedImmune, leading the global clinical team developing multiple immunotherapies. In addition, as a member of the Bristol-Myers Squibb Immuno-oncology program, he served on the Yervoy (ipilimumab) clinical team supporting the program from early phase II through multiple global launches of the first FDA-approved immune checkpoint inhibitor. In addition to his engagement with investment firms, Dr. Ibrahim also serves on the Scientific Advisory Board of Harpoon and on the Board of Directors for Surface Oncology.

bluebird bio also acknowledges the significant and impactful contributions of Dr. David Schenkein, who after eight years, is stepping down from the bluebird bio Board of Directors.

Financial Summary
bluebird bio preliminary and unaudited cash, cash equivalents and marketable securities balance as of December 31, 2020 was approximately $1.3B. At the time of separation, bluebird bio plans to capitalize each business with sufficient cash runway to achieve value creating milestones. In preparation for the separation, bluebird bio will continue to prudently and carefully manage the cost structure of each business while evaluating dedicated financial and strategic funding sources. bluebird bio expects to incur increased

transactional and separation expenses through the completion of the transaction as it works to separate and transition the two businesses. bluebird bio will provide additional financial details closer to the date of separation.

Transition and Timing
Specific details regarding the companies including financial statements, the name of Oncology Newco as well as executive management teams and the respective Board of Directors (BOD) for each company will be provided at a later date. Expected executive team, employee and BOD transitions will be effective as of the closing of the separation anticipated to be in the Q4 2021 timeframe. bluebird bio anticipates both companies will be headquartered in Cambridge, Mass. European operations will remain with bluebird bio and the SGD business. Facilities, research and manufacturing operations in Seattle, Wash. and Durham, N.C. will migrate with the Oncology Newco. The separation is subject to customary closing conditions, including the effectiveness of a Form 10 registration statement with the U.S. Securities and Exchange Commission, receipt of a private letter ruling from the IRS and tax opinion from counsel, and final approval by bluebird bio's Board of Directors. There can be no assurance regarding the ultimate timing of the separation or that the separation will ultimately occur.

Goldman Sachs & Co. LLC is serving as exclusive financial adviser to bluebird bio and Goodwin Procter LLP is serving as its legal counsel.

Webcast Information
bluebird bio will hold a conference call to discuss the news on Monday, January 11 at 8:00 a.m. ET. Investors may listen to the call by dialing (844) 825-4408 from locations in the United States or +1 (315) 625-3227 from outside the United States. Please refer to conference ID number 225-6277.

In addition, members of the management team will participate in the 39th Annual J.P. Morgan Healthcare Conference, Monday, January 11 at 2:50 p.m. ET.

To access the live webcast of bluebird bio's presentations, please visit the "Events & Presentations" page within the Investors & Media section of the bluebird bio website at http://investor.bluebirdbio.com. Replays of the webcast will be available on the bluebird bio website for 90 days following the event.

About bluebird bio, Inc.
bluebird bio is pioneering gene therapy with purpose. From our Cambridge, Mass., headquarters, we're developing gene and cell therapies for severe genetic diseases and cancer, with the goal that people facing potentially fatal conditions with limited treatment options can live their lives fully. Beyond our labs, we're working to positively disrupt the healthcare system to create access, transparency and education so that gene therapy can become available to all those who can benefit.

bluebird bio is a human company powered by human stories. We're putting our care and expertise to work across a spectrum of disorders: cerebral adrenoleukodystrophy, sickle cell disease, β-thalassemia and multiple myeloma, using gene and cell therapy technologies including gene addition, and (megaTAL-enabled) gene editing.

bluebird bio has additional nests in Seattle, Wash.; Durham, N.C.; and Zug, Switzerland. For more information, visit **bluebirdbio.com**.

Follow bluebird bio on social media: **@bluebirdbio**, **LinkedIn**, **Instagram** and **YouTube**.

Forward-Looking Statements
This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Any forward-looking statements are based on management's current expectations of

future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These statements include, but are not limited to: statements about the benefits of a potential separation, including with respect to bluebird bio's and Oncology NewCo's competitive position, attractiveness to investors and enhanced operational, commercial and scientific efficiency or effectiveness; the timing, leadership, structure, including the division of assets among bluebird bio and Oncology NewCo, and the impact of a separation; capital allocation and financing ability for each entity; the strategic, including the intended development and commercialization, plans for each of bluebird bio and Oncology NewCo, and potential corporate development opportunities; the tax free nature of the separation; and the commercial potential and potential demand for ZYNTEGLO and product candidates (and the drivers, timing and impact thereof). Applicable risks and uncertainties include those related to the possibility that we may not complete the separation on the terms or timeline currently contemplated if at all, achieve the expected benefits of a separation, and that a separation could harm our business, results of operations and financial condition; the risk that the transaction might not be tax-free; the risk that we may be unable to make, on a timely or cost-effective basis, the changes necessary to operate as independent companies; Oncology NewCo's lack of independent operating history and the risk that its accounting and other management systems may not be prepared to meet the financial reporting and other requirements of operating as an independent public company; the risk that dedicated financial and/or strategic funding sources may not be available on favorable terms; the risk that a separation or announcement thereof may adversely impact our ability to attract or retain key personnel; the risk that a separation may adversely impact the effectiveness of development and commercialization efforts by us and our partners; the risk of possible disruption to our businesses as a result of the announcement or pendency of the separation; the risk that the efficacy and safety results from our prior and ongoing clinical trials will not continue or be repeated in our ongoing or planned clinical trials; the risk that the current or planned clinical trials of our product candidates will be insufficient to support regulatory submissions or marketing approval in the United States and European Union; the risk that regulatory authorities will require additional information regarding our product candidates, resulting in delay to our anticipated timelines for regulatory submissions, including our applications for marketing approval; and the risk that any one or more of our product candidates, will not be successfully developed, approved or commercialized on the guided timeline or otherwise as expected, or at all; and the risk that we are unable to manage our operating expenses or cash use for operations. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and bluebird bio undertakes no duty to update this information unless required by law.

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