



## Takeda Information

### **Takeda to Host R&D Day & Plasma-Derived Therapies Day in Tokyo, Japan**

**Osaka, JAPAN, November 21, 2019** – Takeda Pharmaceutical Company Limited ([TSE:4502/NYSE:TAK](https://www.takeda.com/stock)) (“Takeda”) will host a combined R&D Day and Plasma-Derived Therapies (PDT) Day on November 21, 2019 in Tokyo, Japan, from 11:00 a.m. to 5:00 p.m. JST, for investors and analysts. The Japanese and English language versions of the R&D Day presentation and PDT Day presentation, which include contents that were presented in New York on November 14 and in Covington on November 15, respectively, are attached.

Also, a webcast of the event will be made available on the FY19 Special IR Events section of our [website](#).

###



## REALIZING THE POTENTIAL OF PLASMA-DERIVED THERAPIES

21<sup>st</sup> November 2019

Julie Kim

President, Plasma-Derived Therapies Business Unit



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The companies in which Takeda directly and indirectly owns investments are separate entities. In this presentation, "Takeda" is sometimes used for convenience where references are made to Takeda and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies.

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### Financial information

Takeda's financial statements are prepared in accordance with International Financial Reporting Standards ("IFRS").

The revenue of Shire plc ("Shire"), which were presently, presented in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"), have been conformed to IFRS, without material difference.

The Shire acquisition closed on January 8, 2019, and our consolidated results for the fiscal year ended March 31, 2019 include Shire's results from January 8, 2019 to March 31, 2019. References to "Legacy Takeda" businesses are to our businesses held prior to our acquisition of Shire. References to "Legacy Shire" businesses are to those businesses acquired through the Shire acquisition.

This presentation includes certain pro forma information giving effect to the Shire acquisition as if it had occurred on April 1, 2018. This pro forma information has not been prepared in accordance with Article 11 of Regulation S-X. This pro forma information is presented for illustrative purposes and is based on certain assumptions and judgments based on information available to us as of the date hereof, which may not necessarily have been applicable if the Shire acquisition had actually happened as of April 1, 2018. Moreover, this pro forma information gives effect to certain transactions and other events which are not directly attributable to the Shire acquisition and/or which happened subsequently to the Shire acquisition, such as divestitures and the effects of the purchase price allocation for the Shire acquisition, and therefore may not accurately reflect the effect on our financial condition and results of operations if the Shire acquisition had actually been completed on April 1, 2018. Therefore, undue reliance should not be placed on the pro forma information included herein.


# PLASMA PRESENTS A UNIQUE OPPORTUNITY




Plasma is a durable business with compelling growth opportunity...

- 1 Products have lifecycle spanning decades
- 2 Indication expansion continues
- 3 Not subject to patent cliffs
- 4 Probability of success for R&D is generally high
- 5 Market demand continues to grow steadily

## ...AND HAS DISTINCT ASPECTS



Plasma is collected from human donations - scarce supply



It can take more than 7 months to produce plasma-derived therapies



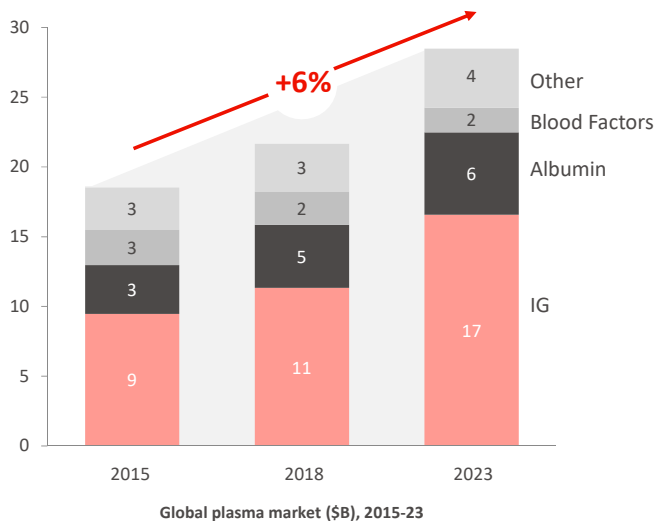
Capital-intensive manufacturing process

2





# DEMAND FOR KEY PLASMA-DERIVED THERAPIES HAS BEEN CONTINUOUSLY INCREASING AND EXPECTED TO GROW



Worldwide demand for plasma-derived therapies is expected to increase each year



This trend is primarily driven by:

-  Greater awareness and increasing rates of diagnosis
-  Growing access in emerging markets
-  New indications in both immune deficiencies and immune-mediated diseases
-  Innovation in formulations and delivery systems

Source: Berman. Plasma Fractionation: The Challenge of Keeping Pace with Global IG Demand / MRB, Evaluate Pharma, PDT Analysis / Chapel H, et al. Front Immunol 2014 Dec 15;5:627. / News release: Shire Launches Paediatric Indication for Immunodeficiency Treatment HyQvia in Europe. 21 July 2016. / News release. Shire Announces FDA Approval for Label Expansion of CINRYZE® for Prevention of Attacks in Pediatric HAE / Jones, et al. Frontiers in Immunology 2018;9:1308.

# TAKEDA IS NOW ORGANIZED – AND UNIQUELY POSITIONED - TO REALIZE THE FULL POTENTIAL OF PLASMA-DERIVED THERAPIES



**>20**  
**PLASMA-DERIVED THERAPIES**

**RARE DISEASE LEADER**  
Deep understanding of patient's needs

**GLOBAL PHARMA SCALE & EXPERTISE**  
Capabilities in digital technology, data analytics, patient insights

**75+ YEAR**  
pioneer legacy in plasma

## PLASMA-DERIVED THERAPIES DEDICATED BUSINESS UNIT

Top 3 plasma company, investing to grow



**PLASMA-FOCUSED**  
R&D Team

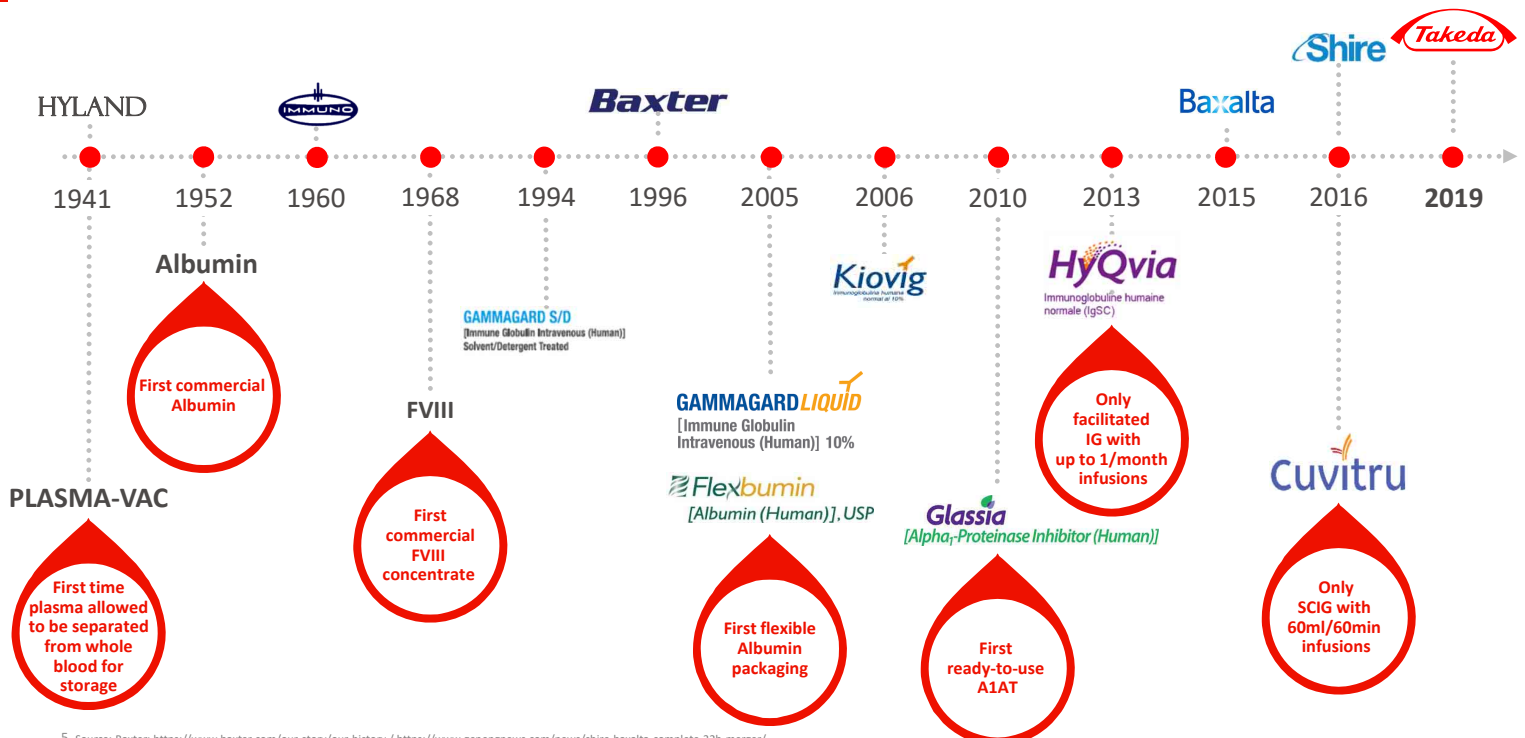
**8**  
MANUFACTURING SITES

**140+** PLASMA COLLECTION CENTERS

**13,000** EMPLOYEES  
worldwide, focused on plasma business

4 Source: Evaluate Pharma, PDT Analysis. / Takeda internal data

# WE ARE BUILDING ON A LONG AND SUCCESSFUL HISTORY OF BRINGING INNOVATIVE THERAPIES TO PATIENTS



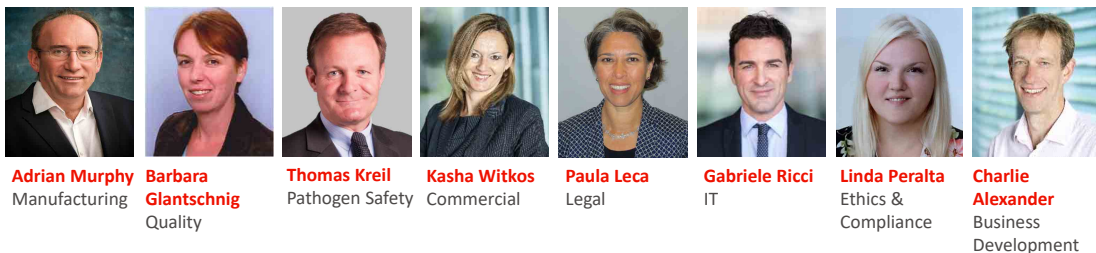
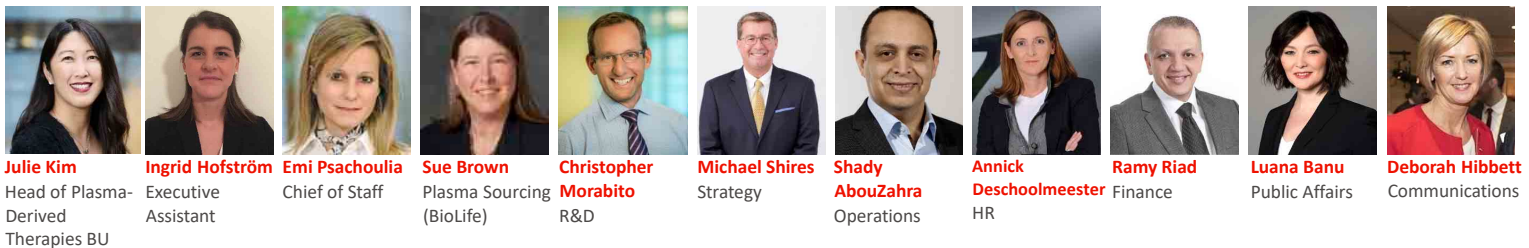
5 Source: Baxter: <https://www.baxter.com/our-story/our-history/> / <https://www.genengnews.com/news/shire-baxalta-complete-32b-merger/>

# WE'VE ESTABLISHED A DEDICATED BUSINESS UNIT TO STEER OUR PATH, BRING FOCUS AND HARNESS OUR END-TO-END PLASMA CAPABILITIES



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# OUR PDT BU LEADERSHIP TEAM DRAWS ON, AND BRINGS TOGETHER, TAKEDA'S EXTENSIVE PLASMA EXPERIENCE AND BROADER EXPERTISE



**140 +**  
combined years of plasma experience

**19**  
team members

**11**  
nationalities

**♀ 60% Female**  
**♂ 40% Male**

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## Our Ambition

*Build a respected, sustainable plasma business that reimagines the industry to best serve patients worldwide*



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### We have a singular, dedicated plasma focus and strategy

- Responsibility for end-to-end plasma business
- Dedicated R&D organization and budget

### We also benefit from the support of a global, values-based biopharmaceutical company

- Long-term view with commitment to invest as plasma is a key growth driver for Takeda
- Access to Takeda's broader resources, capabilities and expertise, particularly R&D and manufacturing

## OUR STRATEGY AND TARGETED INVESTMENTS EXTEND ACROSS THE ENTIRE VALUE CHAIN

PLASMA SOURCING

MANUFACTURING

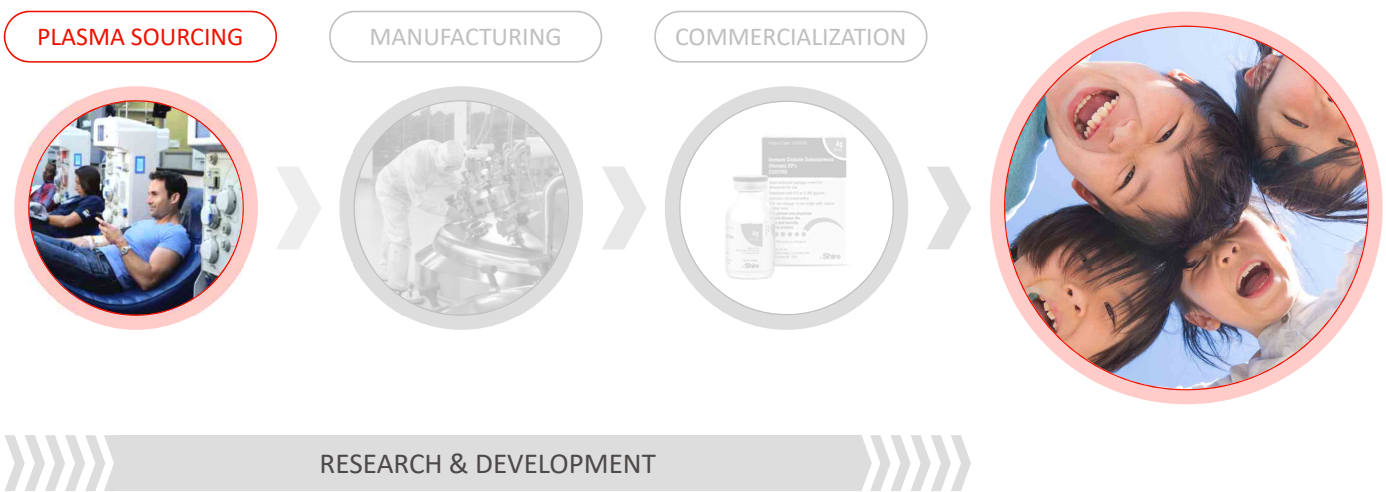
COMMERCIALIZATION



RESEARCH & DEVELOPMENT



# VIDEO OF PLASMA CENTER AND MANUFACTURING FACILITY



# WE ARE ACCELERATING THE RATE OF PLASMA COLLECTION AND INCREMENTALLY INCREASING OVERALL VOLUME



## We are building momentum....



- Increased plasma volumes by approximately 20% in 2018
- Expanded European presence from 7 to 30 collection centers within past 12 months
- Completed 5 acquisitions in the past 12 months in US, Austria, Hungary and Czechia
- Plan on opening a total of 19 additional new collection centers in fiscal year 2019
- Leveraging third party supply through long-term contracts
- Participating in contract agreements with governments

We are accelerating growth with the goal of increasing plasma supply by

# >65%

over the next 5 years

## We will continue to focus on operational excellence



- Open collection sites faster
- Increase speed to peak collection volumes
- Create efficiency via new models and approaches

12 Source: Takeda internal data.

# WE ARE FURTHER ENHANCING AND DIGITALIZING FACILITIES AND SERVICES TO MEET GROWING NEEDS FOR THE FUTURE



## Attracting new donors in the community

- Reaching new donors
- Increasing community engagement

Improving the donor experience and improving cost-per-liter through omnichannel engagement



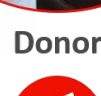
Mobile App



Website



Scheduling



Donor



Payment



Information





PLASMA SOURCING

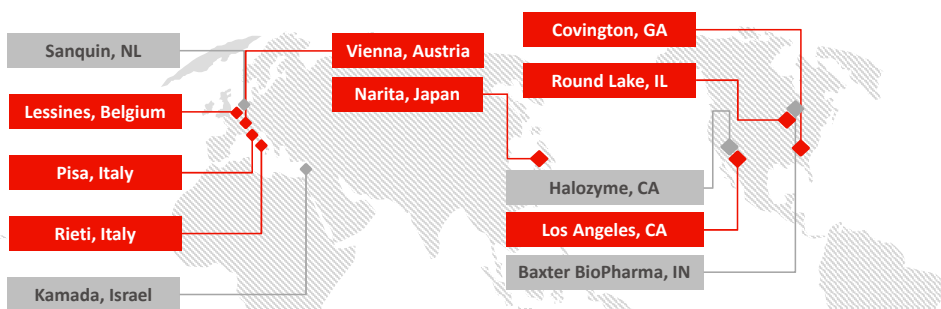
MANUFACTURING

COMMERCIALIZATION



RESEARCH & DEVELOPMENT

## WE HAVE A WORLD-LEADING PLASMA DERIVED THERAPIES MANUFACTURING NETWORK IN WHICH WE CONTINUE TO SIGNIFICANTLY INVEST



Takeda Mfg.

External Mfg.

### 8 STRATEGIC LOCATIONS

plus four strategic partners, allowing independent yet inter-related manufacturing operations

### INNOVATION MINDSET

digitalization and constant drive for excellence to accelerate supply to patients

### CONTINUED CAPACITY EXPANSION

to increase production of our portfolio to meet market growth while driving efficiencies

### CONTINUALLY INVESTING

in state-of-the-art facilities that meet the highest quality standards

## WE'RE INCREASING PRODUCTION CAPACITY BY ACCELERATING INVESTMENT, WHILE FURTHER ENHANCING OUR QUALITY STANDARDS



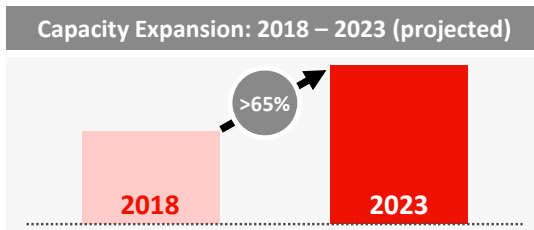
### Investing in manufacturing capacity

- Continually investing in technologies and processes to **maximize yield**
  - Higher yield, lower cost fractionation techniques
  - Analytics, automation and digitization to optimize network
- **Optimizing plasma efficiency** through the value chain
- **Downstream optimization** within broader Takeda manufacturing network

We plan to increase our manufacturing capacity within our existing network by

# >65%

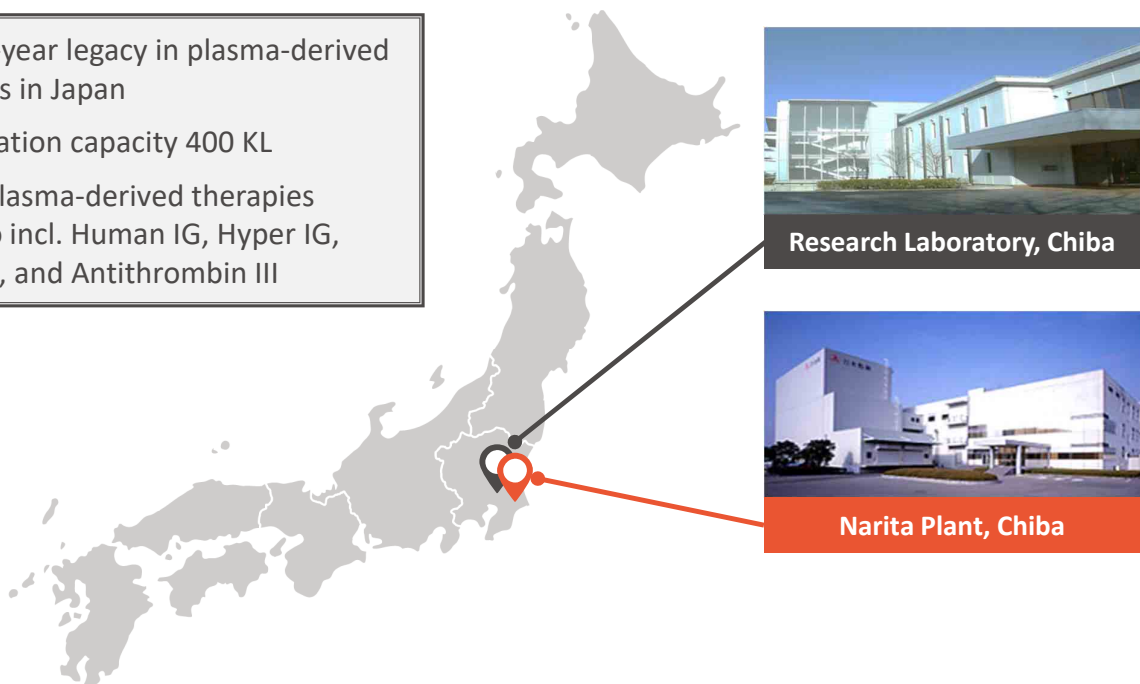
over the next 5 years



## IN JAPAN TAKEDA HAS DOMESTIC MANUFACTURING CAPABILITIES THROUGH OUR SUBSIDIARY NIHON PHARMA



- Over 60-year legacy in plasma-derived therapies in Japan
- Fractionation capacity 400 KL
- Strong plasma-derived therapies portfolio incl. Human IG, Hyper IG, Albumin, and Antithrombin III



# TAKEDA HAS WORLD-CLASS SAFETY CAPABILITIES AND AN UNSURPASSED REPUTATION IN BOTH PLASMA DONATION AND PATHOGEN SAFETY



## Donation safety standards

**Strict donation criteria and screening at each visit**

**Donation frequency management system**

**Strong inspection record**

**Plasma screening, inventory hold and look back procedure**

Every plasma donation screened for HIV, hepatitis A, B & C, parvo B19

## Pathogen safety standards

### BioSafety Level 3+ Lab

Purpose-built, state-of-the-art biocontainment laboratory

### Process sciences

Qualified models of all bioprocessing steps

### Virology

Classical & molecular virology expertise and capability

### Publication / presentation

Strong track record

## Dedicated virology expertise and capabilities



**40+** highly trained staff



**>50%** with specialized education



**>200** years post-graduate experience



PLASMA SOURCING

MANUFACTURING

COMMERCIALIZATION



RESEARCH & DEVELOPMENT

# OUR BROAD AND DIFFERENTIATED PORTFOLIO OF PLASMA-DERIVED THERAPIES TREATS RARE AND COMPLEX DISEASES WORLDWIDE



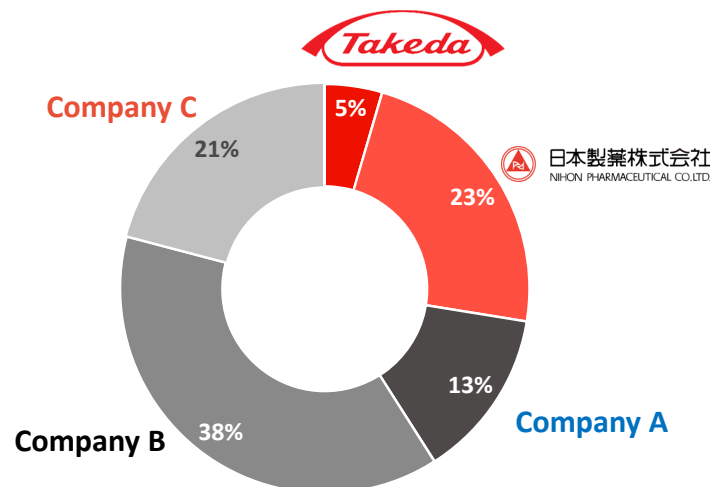
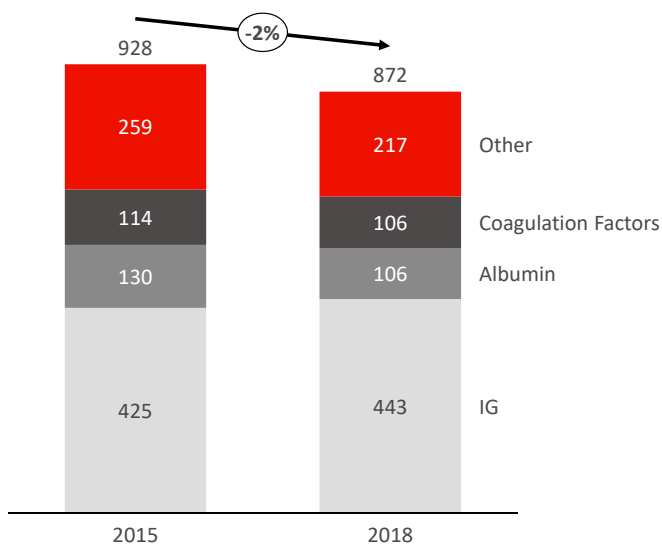
20 For illustrative purposes only, geographies and products do not correspond

# IN JAPAN, IG GROWTH REMAINS STRONG AND THERE IS OPPORTUNITY TO ENHANCE STANDARD OF CARE



Japan Plasma Market (\$M), 2015-18

Japan PDT Revenue Market Share



Pd: plasma derived, IG: Immunoglobulin

NOTE: The category of product type is based on Takeda internal standards. Converted at April 2018-March 2019 average exchange rate of 111 JPY/USD  
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# OUR GOAL IS TO CONTINUE TO BRING PERSONALIZED, INNOVATIVE, LIFELONG CARE THROUGHOUT THE PATIENT JOURNEY



## Diagnosis

- Partnership with large hospital systems in the US to leverage electronic medical records
- Co-chairing the Global Commission to End the Diagnostic Odyssey for Children with Rare Disease
- Awareness campaigns
- Diagnostic test kits



## Access

- Sustainable pricing
- Dedicated access support
- Patient assistance programs
- Broad portfolio of products

## Personalized Care & Support

- Enhanced patient services
- Nurse training to support new patients
- Devices and delivery systems

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# WE ANTICIPATE SIGNIFICANT GROWTH OPPORTUNITIES ACROSS OUR PORTFOLIO



		Example Global Takeda products	Japan Takeda products	Global Takeda revenue (OY, 2018)	Global plasma market size (OY, 2018)
Last Liter	Immunoglobulin	GAMMAGARD <i>LIQVIA</i> / Kiovig HyQvia Immunoglobuline humaine normale (IgG) Cuvitru	kenketu glovenin®-I GAMMAGARD S/D [Immune Globulin Intravenous (Human)] [Solvent/Dehydrant Free]	~2,870	~12,500
	Albumin	Flexbumin HUMAN ALBUMIN solution for infusion	KENKETU ALBUMIN KENKETU ALBUMINATE®	~580	~5,000
First Liter	Hemophilia products	HEMOFIL M IMMUNINE® FEIBA® IMMUNATE	FEIBA®	~890	~2,800
	Other products	Aralast NP Prothromplex NF 600 Glassia [Alpha-Proteinase Inhibitor (Human)] Ceprotin [Protein C Concentrate (Human)] CINRYZE® Antithrombin III	KENKETU NONTHRON® Antithrombin III	~660	~3,700
<b>Total</b>				<b>~5,000*</b>	<b>~24,000</b>

\*2018 revenue is a pro-forma which adds Legacy Shire's 9 month (April – December 2018) revenue previously reported under US GAAP and conformed to IFRS without material differences and converted to JPY using FY2018 actual rate for the period. 2018 revenue also includes product sales of Nihon Pharmaceutical products, Takeda's consolidated subsidiary.

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Source: MRB; EvaluatePharma; Takeda internal data

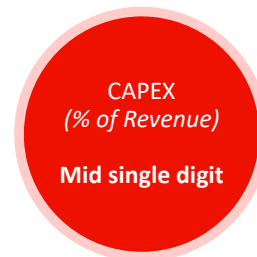
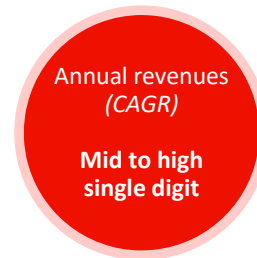
# AND WE ARE EMBARKING ON A TRAJECTORY TO IMPROVE OVERALL PLASMA-DERIVED THERAPIES BUSINESS PERFORMANCE



## Key Growth & Margin Drivers for PDT

- Focused **sustainable, value-based commercial strategies**, including tenders
- **Process efficiencies** across the network
- **Capacity increase** across collections and manufacturing
- **R&D investments** across portfolio

## Key Financial Aspiration for PDT\*



\* The "Key Financial Aspirations" listed above represent Takeda's goals in the long-term for the PDT business as of the date hereof and are based on certain assumptions. Actual Amounts/results may differ materially and are subject to a number of risks and uncertainties. See "Note Regarding Forward Looking Statements" on Page 1 of this presentation.

## KEY TAKEAWAYS



# 1

At Takeda, plasma is a **long-term strategic focus**, led by a **dedicated business unit investing to grow** across the value chain and leveraging Takeda capabilities

# 2

Our goal is to **accelerate growth in capacity by >65%** over the next 5 years to bring additional and improved therapies to more people around the world

# 3

Our **broad and differentiated portfolio** brings **personalized, innovative, lifelong care** and underlines our credentials for **reimagining the industry**