

A grayscale photograph of an elderly couple embracing in a field with mountains in the background. The woman is on the left, wearing a denim jacket, and the man is on the right, wearing a light-colored shirt. They are both smiling and looking towards the right. The background shows rolling hills and mountains under a clear sky.

GRIFOLS 2022 Investor & Analyst Day

June 30, 2022

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FORWARD-LOOKING STATEMENTS

This document contains forward-looking information and statements about GRIFOLS based on current assumptions and forecast made by GRIFOLS management, including pro forma figures, estimates and their underlying assumptions, statements regarding plans, objectives and expectations with respect to capital expenditures, synergies, products and services, and statements regarding future performance. Forward-looking statements are statements that are not historical facts and are generally identified by the words “expected”, “potential”, “estimates” and similar expressions.

Although GRIFOLS believes that the expectations reflected in such forward-looking statements are reasonable, various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the Company and the estimates given here. These factors include those discussed in our public reports filed with the Comisión Nacional del Mercado de Valores and the Securities and Exchange Commission, which are accessible to the public. The Company assumes no liability whatsoever to update these forward-looking statements or conform them to future events or developments. Forward-looking statements are not guarantees of future performance. They have not been reviewed by the auditors of GRIFOLS.

Agenda

Time (all in CET)	Topic	
10:30-11:00 am	Breakfast	
11:00-11:05 am	Welcome	Nuria Pascual
11:05-11:15 am	Introductory Remarks	Raimon Grifols
11:15-11:50 am	Plasma	Peter Allen
11:50-12:00 am	Egypt and Canada	Daniel Fleta
12:00-12:45 am	Biopharma	William Zabel, Joana Sàbat
12:45 am-1:00 pm	Diagnostic	Antonio Martínez
1:00-2:15 pm	Lunch	
2:15-2:45 pm	Innovation	Albert Grifols Coma-Cros, César Cerezo, Carter Keller
2:45-3:30 pm	Biotest	Joana Sàbat, Jörg Schüttrumpf
3:30-4:00 pm	Financials	Alfredo Arroyo
4:00-4:15 pm	Final Remarks	Víctor Grifols Deu
4:15-5:00 pm	Q&A	



GRIFOLS 2022 Investor & Analyst Day

INTRODUCTORY REMARKS

Strengthening Our Mission to Improve Patients' Life Sustainably

Raimon Grifols, co-CEO

Grifols has supported patients amid unprecedented times through the generosity of its donors and commitment of its 25,000 employees

Reinforcing our mission through a sustainable approach, strengthening...





Reinforcement of Plasma Supply in the Past 2 Years...

Expanding and Diversifying Our Plasma Network, Capacities and Capabilities


2020 (before pandemic)



Broadening our
global footprint of
400+ centers

 264

 48  

 41 (through SRAAS)



Strengthening our
fractionation capacity

15 ML/year

Note: plasma centers as of June 30, 2022; SRAAS not included in the 400+ figure as it is not fully consolidated in Grifols' financials



... Sees the Business Strongly Positioned Today

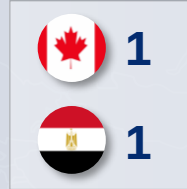
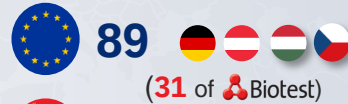
Expanding and Diversifying Our Plasma Network, Capacities and Capabilities

Today

Progress



Broadening our global footprint of **400+ centers**



+90 centers
in 2 years



Strengthening our **fractionation capacity**

22 ML/year

+7 mL
in 2 years

Note: plasma centers as of June 30, 2022; SRAAS not included in the 400+ figure as it is not fully consolidated in Grifols' financials






Innovation Ecosystem to Drive Growth and Profitability

Bolstered With the Biotest Acquisition

Innovation ecosystem



7 therapeutic areas

-  Immunology
-  Hepatology & Intensive Care
-  Pulmonology
-  Hematology
-  Neurology
-  Infectious diseases
-  Others

 **Biotest**
reinforces our pipeline

3 key projects to drive revenue growth and margin expansion

Fibrinogen

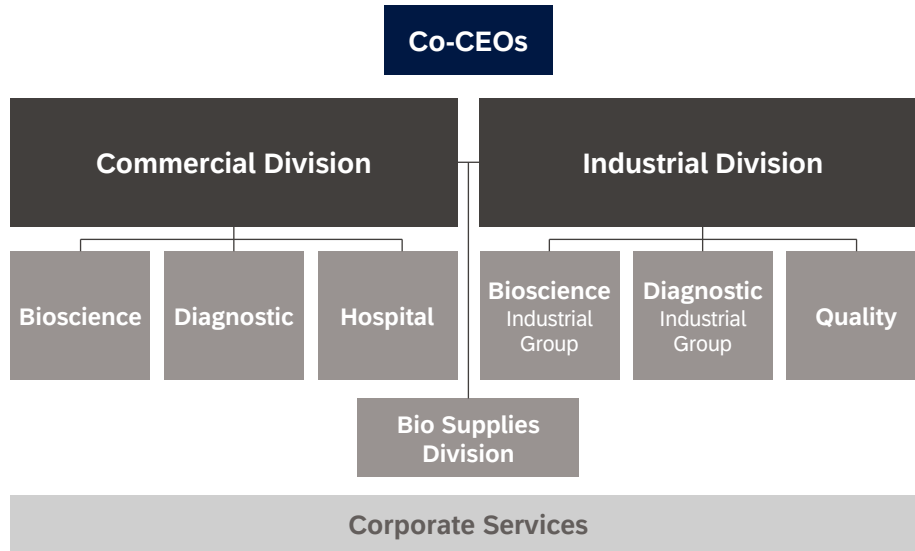
Trimodulin

Cytotect®

Streamlining Our Organizational Model...



Previous structure

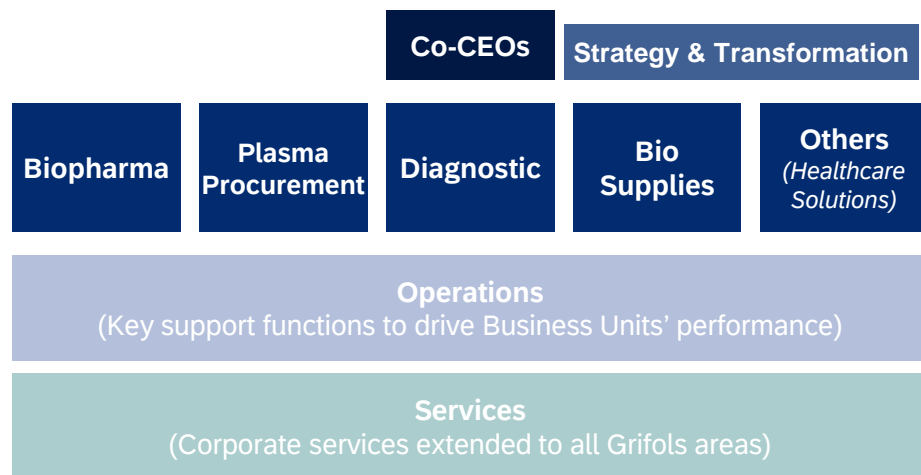




... To Strengthen the Core

The “New Grifols”

New structure



Creation of full-fledged Business Units

- ✓ Enhanced **effectiveness** and **operational efficiencies**
- ✓ **Stronger governance** model
- ✓ **Accountability** over execution
- ✓ **Less operational complexity**
- ✓ **Greater speed** and **agility** through organization-wide services
- ✓ Reduce **time-to-market reaction**

Operating With a Sustainable Approach

The First in the Industry to Have a Set of 3 Policies Reflecting Our Commitments

Pioneers in developing a **Plasma Donors Policy**

GRIFOLS

PLASMA DONOR POLICY

INTRODUCTION

Grifols aims to enhance the health and well-being of people around the world since

Plasma is an essential raw material in the manufacture of plasma-derived therapy used to treat rare, chronic, severe, often genetically inherited and potentially life conditions.

Plasma cannot be produced in a laboratory or via small-molecule synthesis. Both and if not thousands of donations are needed to produce plasma based medicines.

Plasma donations are voluntary and take place in specialized plasma donation or via plasmapheresis, a process that removes plasma (source plasma) from who immediately reintroduces blood cells and platelets back into the Donor's body. On approximately an hour (or more) and can be performed with greater frequency donations since only the plasma is retained and the body quickly regenerates plasma.

Grifols compensates Donors monetarily, as an act of justice and return, for their and outdoors as well as the standard time, associated costs and efforts involved.

GRIFOLS

PATIENT AND PATIENT ORGANIZATION

INTRODUCTION

Over the years, the healthcare landscape has evolved to become more complex and decisions of patients. The patient enters in new decision-making, along with the health care provider.

By integrating the insights, expertise and feedback from patients and their organizations, Grifols has been able to develop and design meaningful treatments, diagnostics, technologies, services and solutions, aligning with and responding to the growing experience of the patient care has become a top priority for Grifols.

Grifols has always been committed to improving the health and well-being of people around the world since its origin. Patients are at the center of Grifols' activity, requiring a commitment to the highest safety, quality and efficacy standards at every stage of production and distribution.

In reflection of this dedication, Grifols works closely with POs to help them advance their mission, promoting ongoing initiatives to engage, educate and support patients around the world. Grifols recognizes the experience and commitment of POs, and thus the value of dialogue, feedback and insights. These collaborations respect applicable principles of independence and transparency as well as country-specific regulations.

Grifols aims to create an extensive and credible source of information for both patients and POs, offering them educational support and information on the origin of the starting material on which their treatment depends, the complete and timely production process and the numerous ways that plasma therapies differ from traditional pharmaceutical products.

PURPOSE

This Patient and Patient Organizations Policy (the "Policy") offers a set of principles that underpin our approach to engagement with patients and patient organizations.

SCOPE

This Policy applies to all employees of Grifols, S.A. and its subsidiaries and affiliated companies ("Grifols") in their relationships with patients and POs.

This Policy covers all interactions with POs, and interactions with individual patients (when legally possible) and caregivers. All Grifols-related programs intended to provide services related to improving patient or healthcare outcomes, or to ensure or assist with access and/or reimbursement (e.g., patient support programs, patient assistance programs and patient

1. Patient Organizations or Patients Groups (POs) are defined as the health advocates that promote responses to medical and scientific needs of patients and caregivers. The key to the concept of patients' organizations is that they are not-for-profit, non-commercial entities. POs may have formal or informal status and may engage in a variety of activities.

GRIFOLS

HUMAN RIGHTS POLICY

INTRODUCTION

A deep-seated respect for human dignity and human rights underpins all Grifols' activities.

The fundamental principles of bioethics guide Grifols' research, development, manufacture and marketing of its products in order to guarantee the safety and dignity of everyone involved in Grifols' value chain. By following these principles, Grifols' also ensures its healthcare contributions are carried out with an ethical approach.

Diverse regulations, declarations and codes, including the United Nations International Bill of Human Rights and the Universal Declaration of Human Rights (1948), the Helsinki Declaration (1964) and the Universal Declaration on Bioethics and Human Rights of the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2005) form the foundation of these principles. In 2011, the United Nations Human Rights Council approved the "Guiding Principles on Business and Human Rights."

Predefined on existing international law obligations, these principles provide a global framework to address the fundamental responsibilities of business in protecting human rights. Grifols has freely and proactively communicated its support of the Ten Principles of the United Nations Global Compact derived from Universal Declaration of Human Rights and other international human and labor rights declarations.

Grifols aims to promote and protect the welfare of all communities in which it operates. It uses international references as a starting point to foster corporate responsibility and human rights in all of its activities, including the operation of child labor throughout its value chain. Grifols is also committed to taking steps to prevent ensure that modern slavery is not taking place in any part of its supply chain or its business.

Grifols' efforts to guarantee human rights in its operations are guided by the following elements:

- The International Bill of Human Rights, comprising the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social and Cultural Rights.
- The Fundamental rights in the right International Labor Organization (ILO) core conventions as established in the Declaration on Fundamental Principles and Rights at Work.
- The European Charter of Fundamental Rights.
- The World Medical Association's Declaration of Helsinki.
- UNESCO's Universal Declaration on Bioethics and Human Rights.

Underscoring our respect for **Human Rights**

30 Goals for 2030

across the organization

- ✓ 50% of women in Senior Management positions
- ✓ Achieve 100 training hours/employee per year
- ✓ Increase number of social outreach initiatives and social initiatives investment by 50%
- +
- ✓ Donate 240 million international units of clotting factor medicines to support hemophilia patients in developing countries
- ✓ Increase by 10% financial contributions to the Jose Antonio Grifols Lucas Foundation
- ✓ Achieve >60-80% of total spending on suppliers assessed by ESG criteria

Reconfirming our pledge to **Patients and Patient Organizations**

Donors and Patients: At the Heart of Our Operations

Commitment to Donors and Patients



Social Value

For PATIENTS

€28,600M+

positive impact of 4 main plasma proteins
(IG, Albumin, Alpha-1, pd Factor VIII)

For DONORS

€1,800M+

Physical and
psychological wellbeing

Educational
expenses

Financial stability

Better health

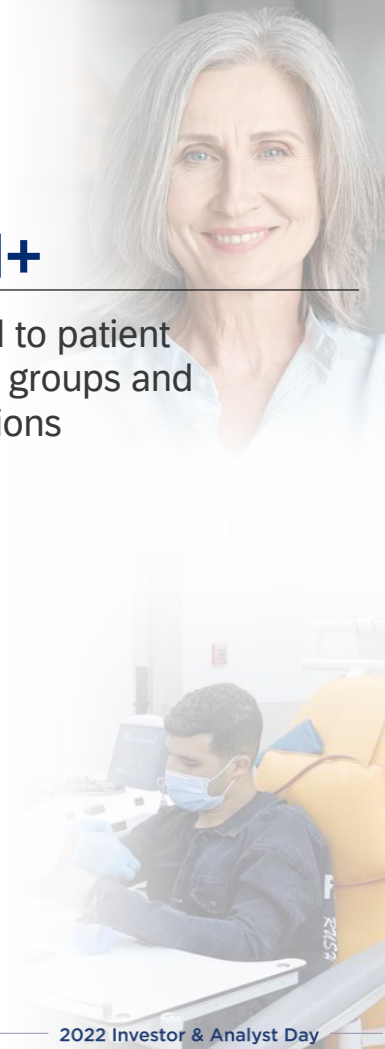
For LOCAL COMMUNITIES

€700M+

€20M+

dedicated to patient
advocacy groups and
organizations

Note: The Social Return on Investment (SROI) method aims to gain a deeper understanding of an organization's social, environmental and economic impact. The SROI method offers Grifols a valuable cost-benefit analysis. The SROI uses individual assessments to measure the change in stakeholders' lives because of Grifols' activities. The SROI framework is not a financial framework and derives from the social accountability. Therefore, the framework attempts to put a number on qualitative issues, and it will always show approximate values.



Enhancing Our Operations' Multiplier Effect

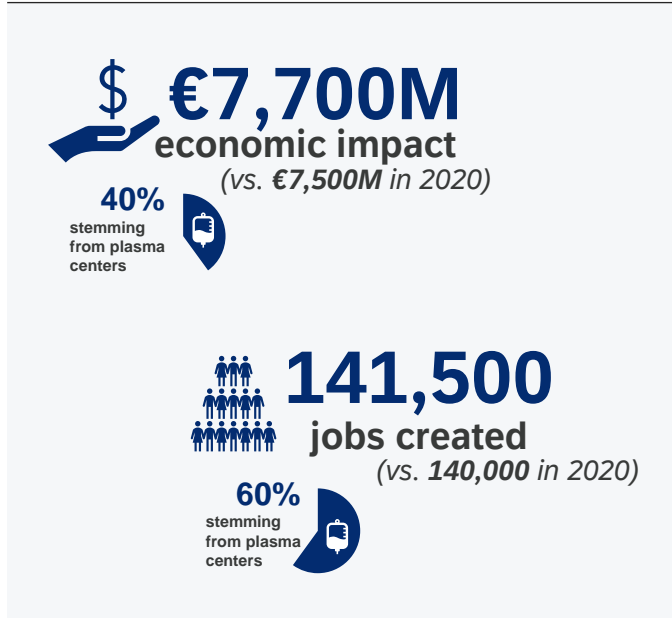
Impact on Society



Our Foundations



Socio-economic Impact



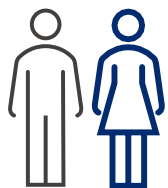
Note: Grifols determined the socio-economic impact of its operations in terms of wealth generation and job creation in the United States, Spain, Germany and Ireland. The input-output framework is an accounting instrument that represents all production and distribution operations of an economy in a given timeframe. This model enables observing the different flows of intersectoral transactions in a specific economy in a reference year. In addition, it allows us to observe a series of effects about the production of the system, which appear broken down between the direct or initial, indirect and total effects, which suppose the sum of the previous ones.

Our Team Is in Our Top Priorities

Grifols Talent



Gender equality



60%
women

65%
promotions
are women

41%
senior
managers
are women

Adjusted Pay Gap

Spain **3.2%**¹

U.S. **2.1%**²

Germany **0.5%**

Ireland **0.1%**

Talent development



+2.8 million
total training hours



Diversity and inclusion

772
employment of people
with disabilities

+29%
vs. 2020

52%
aged 30-50 years old

+11%
nationalities vs. 2020

Building On Our Ambitious 2030 Environmental Goals

Environmental Responsibility



-55% (from -40%)

GHG emissions per unit of production



Mobility decarbonization

in business travel and commutes



+15%

energy efficiency per unit of production



Circular economy

continue implementing new measures



100% (from 70%)

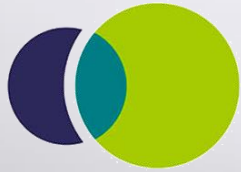
electricity consumption from renewable energies



Biodiversity

protect it in our properties

Recognized Among the World's Most Sustainable Companies



Dow Jones
Sustainability Indexes



EURONEXT

INDICES EUROPE120
INDICES EUROZONE120



VIGEO.EIRIS

MSCI



FTSE4Good



*The new Sant Cugat (Barcelona) office building and auditorium awarded **LEED Gold certification** (Leadership in Energy & Environmental Design)*

GRIFOLS 2022 Investor & Analyst Day

PLASMA

Leveraging a Unique Combination of Plasma Capacity & Capabilities to Accelerate Performance

Peter Allen, EVP Plasma U.S.

A Unique Combination of Plasma Capacity and Capabilities

Ensuring Sustained Growth and Profitability Through Three Pillars

1



Expanding global plasma collections
with the highest standards of quality and safety

2



Leveraging integrations through technology, standardization and efficiencies

3



Donor & Employee experience excellence



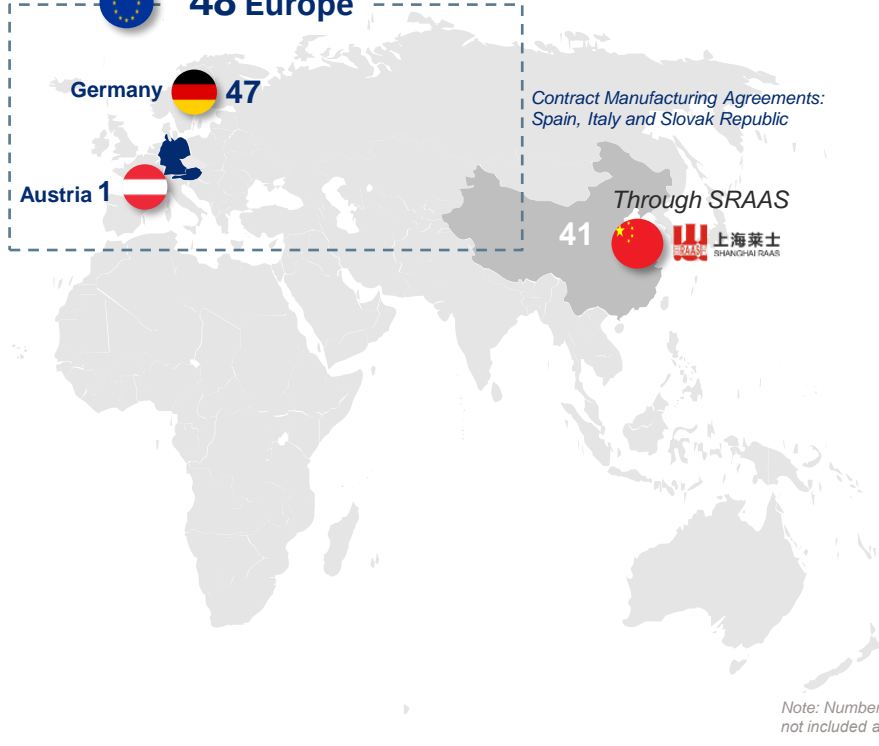
Successfully Executing Our Strategic Plan...

2020

264 North America



48 Europe

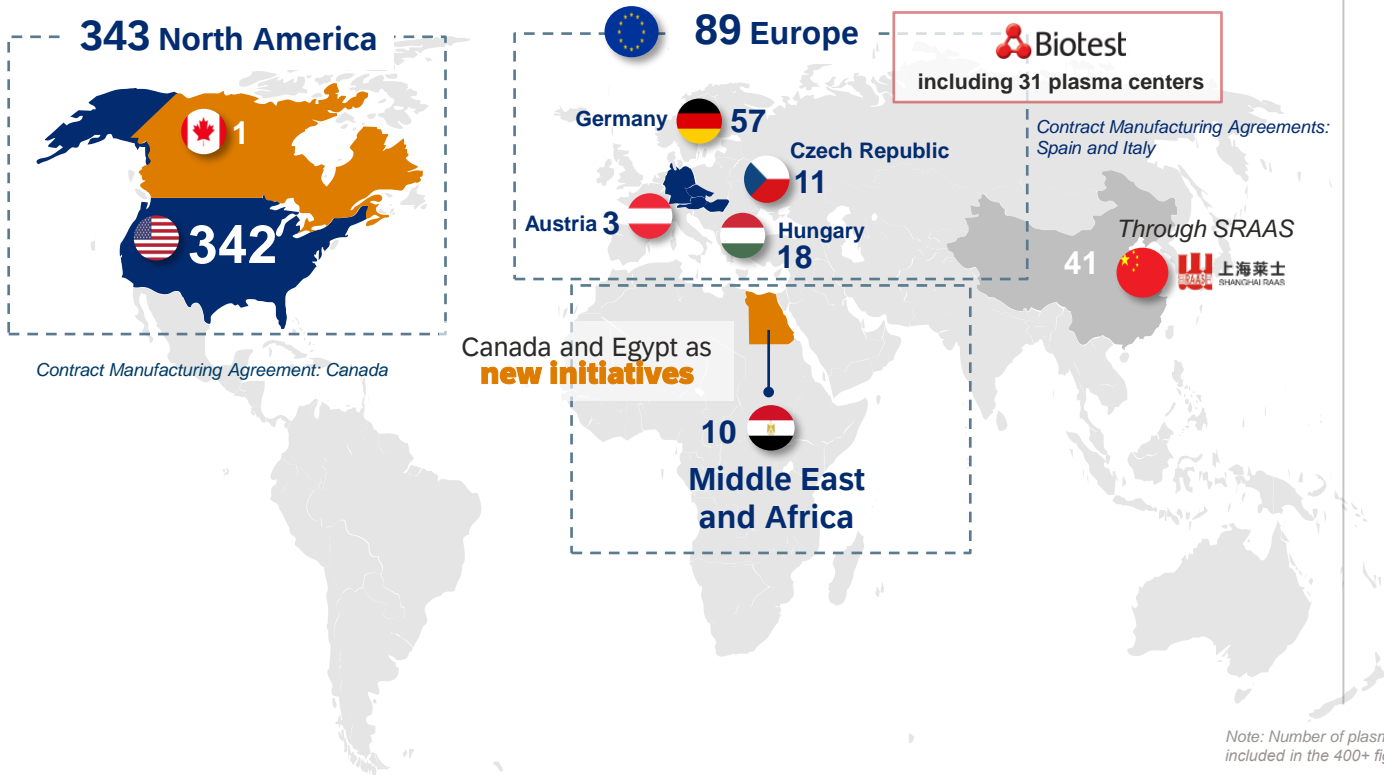


Note: Number of plasma centers as of December 31, 2020; SRAAS not included as it is not fully consolidated in Grifols' financials

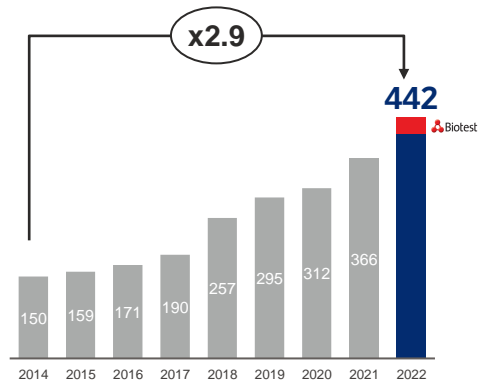


... to Consolidate a Broad Global Footprint of 400+ Centers

By the end of 2022



Expansion of our plasma-center network



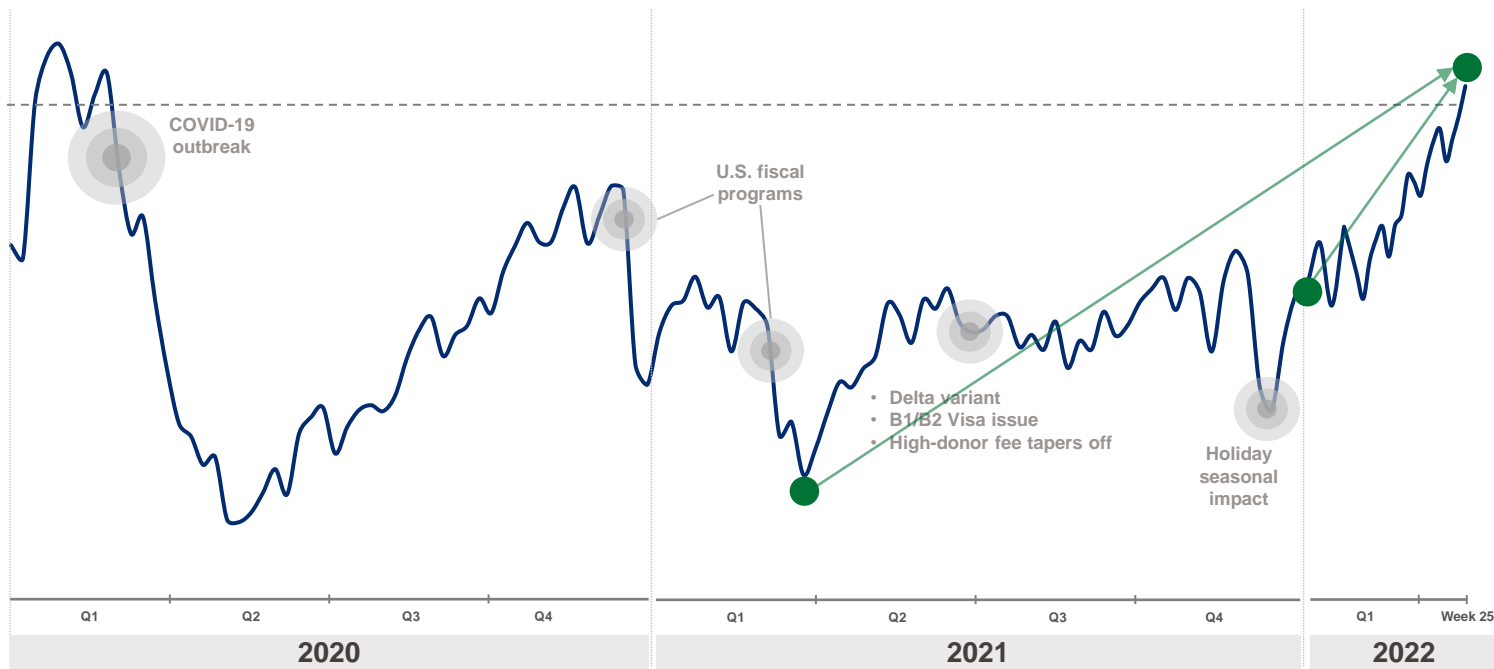
Note: Number of plasma centers expected by the end of 2022; SRAAS not included in the 400+ figure as it is not fully consolidated in Grifols' financials



Accelerating Plasma Collection Throughout 2022

On Track to Satisfying Growing Plasma Demand

Weekly evolution of plasma collections



¹ Comparing first 4 weeks of 2022 with last 4 weeks of 2022 (as of week 25)

² Comparing first 25 weeks of 2022 with first 25 weeks of 2021



Accelerating Plasma Collection Throughout 2022

On Track to Satisfying Growing Plasma Demand

⊕ Tailwinds

- Current **macro-economic context** drives **momentum**
- Contribution from **new** and **recently acquired** centers
- **Regular** centers return to pre-pandemic weekly levels
- **New donor compensation scheme**
- Higher **talent retention**
- **New plasmapheresis devices** roll-out process to end by year-end – increasing donation yields and efficiencies
- **Digital marketing** enhancement
- Both **COVID-19 headwinds** and **U.S. government stimulus impacts** are behind us

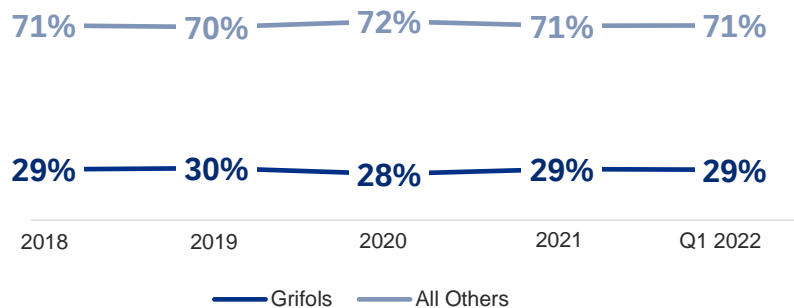
⊖ Headwinds

- **B1/B2 visa restrictions on U.S southern border** continue to impact donation levels. Plasma collections upside if these constraints are ultimately lifted
- **Donor compensation still high**
- Persistence of **inflationary** and **labor pressures**



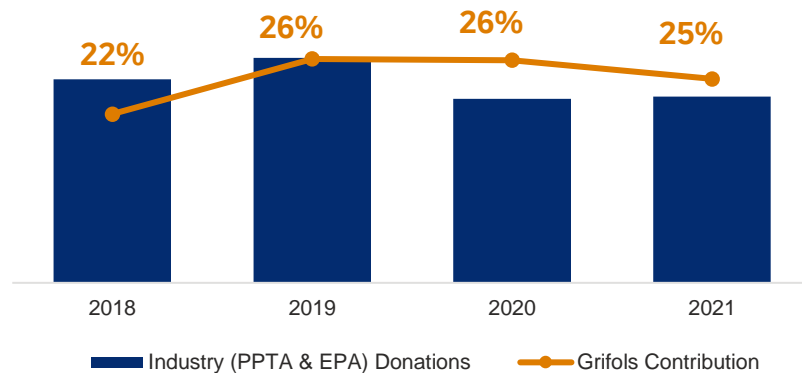
Global Plasma Market Position Supports Leadership in Plasma-Proteins Market Share

Open plasma centers market share evolution (% of open plasma centers)



Note: both graphs including U.S. and EU data

Plasma volumes market share evolution (Industry donations)





Rapid Inorganic Expansion Over the Past 4 Years

A Strong Integration Response Led to Greater Efficiency Gains



Acquisitions



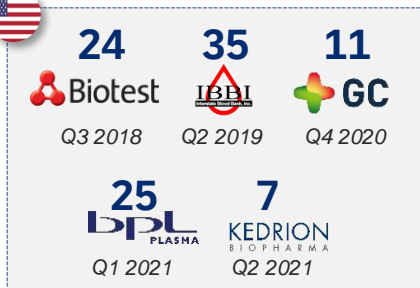
Integrations



Consistency



Efficiency



- Operations
- Quality and safety
- Shared services systems
- Donor management applications and communications
- Technologies
- Human resources
- Culture
- Common SOPs¹
- Similar technologies
- Standardized policies
- Uniformed practices
- Best practices adoptions
- Common training development and execution
- Leverage on the center of excellence

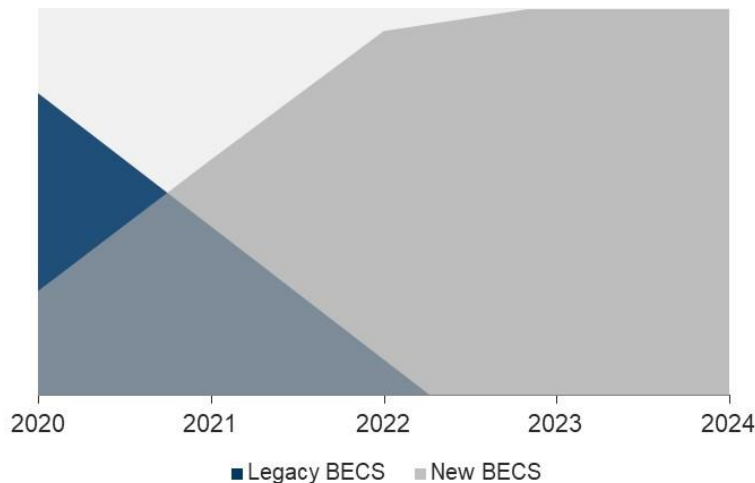


Leveraging Technology to Optimize Ongoing Efficiencies

Increasing Business Process Optimization

Digital Transformation

BECS migration



✓ Benefits

- Improved **documentation** and **workflow**
- **Automated paperless manufacturing records** using handheld computing devices
- **Streamlined process flows** and reduction of manual verification steps thanks to **software automation**
- **Labor optimization** via paperless and process automation
- Donor screening devices that **reduce cycle time** and allow for **automated data entry**

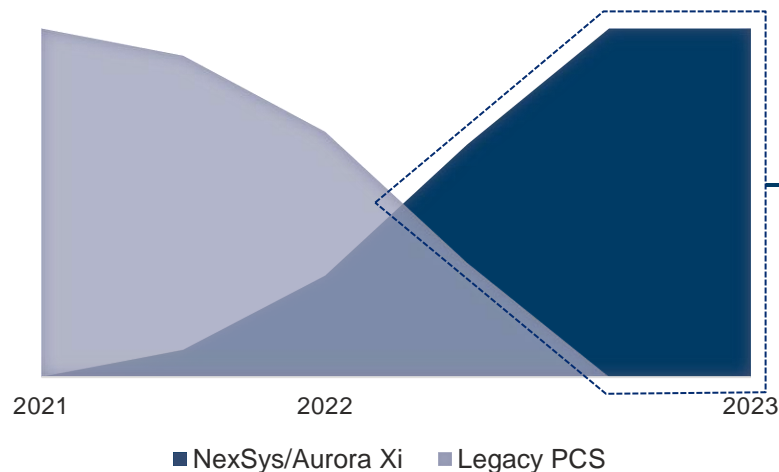


Leveraging Technology to Optimize Ongoing Efficiencies

New Devices Enhance Donor and Employee Experience

Digital Transformation

Device migration



✓ Benefits

- **NexSys** designed with data management, safety features and usability enhancements to **improve yield and efficiency**:
 - Integrated touch screen
 - Integrated scanner
 - Integrated to BECS
- **Aurora Xi** with greater **storage capacity**; updated algorithms provide **faster separation process** to **decrease donation cycle time** and **improve yield**:
 - **More precise controls** and settings of device operating capabilities optimize collection volume while efficiently managing donation supplies

Leveraging Our Capabilities

Process Enhancement From Different Approaches

Process efficiencies

- **Reduce complexities** in the donor center towards **standardization** of our systems of record and infrastructure
- **Better access to donors** and potential donors through online appointment and communication platforms
- Rapid **donor care management**



Donor-center network management

- **Diversify** the donor demographics to expand the **unique** donor count
- Focus on **donor retention** and donation **frequency** by **high service delivery**



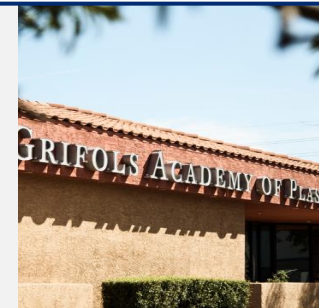
One global plasma organization

- **Share expertise** and **best practices** across Grifols plasma organizations
- Implement **standardization** across plasma organizations **preserving local environment**
- Orientation to **global change** and **innovation**



Talent development

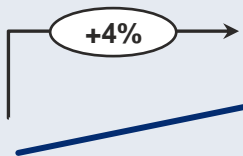
- Academy continues to expand **virtual training programs** and **partnerships**
- **350+ graduates** from Academy's leadership development program
- **50k+ training hours** (all modalities)



Leveraging Technology to Optimize Efficiencies

Delivering on Improvements Derived From Optimizing Diversification

Donor Retention Rate



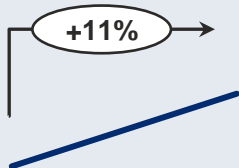
2021

2022

Technology delivering better targeting for donor recruitment, while enhancing donor experience and loyalty:

- Legacy **BECS** transitioned out
- Electronic System **Appointment**
- **Donor visibility** for upcoming donations

Donations per Employee Hour



2021

2022

Talent development, effectiveness and efficiency initiatives have led to a **higher donations processed per employee** due to:

- Process **standardization**
- Efficiency gain in **donor registration process**
- **Paperless process**

Average Yield



2021

2022

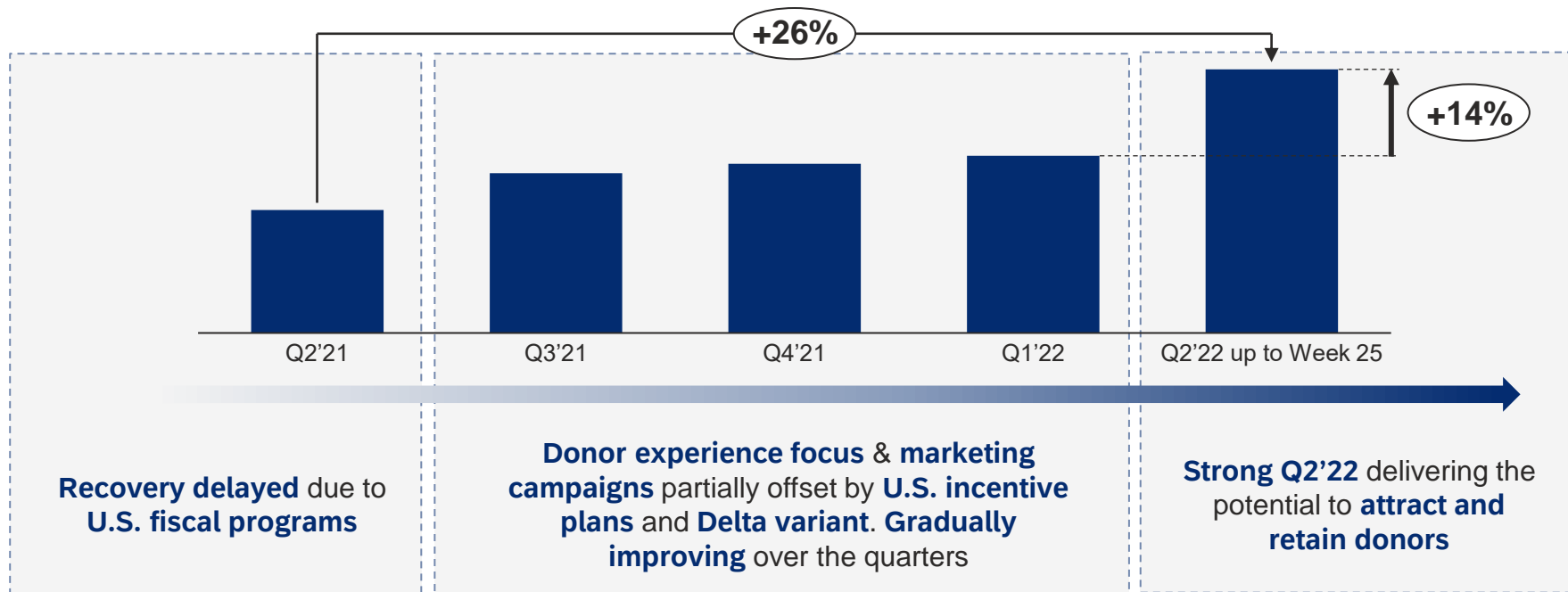
Average liters of plasma per unit are increasing (**higher yield**) as a result of **technology**



Average Liters per Center Demonstrate Positive Momentum

Communication Programs Delivering the Potential

Average Liters per Center*



* Regular centers excluding U.S.-Mexican Border



Employee and Donor Experience Drive Our Mission

Mastering Both Experiences Enables Achieving the Average Liters per Center Target

Employee experience

Substantially improve employee engagement through technology, tools and training



Donor experience

Delight donors at every touchpoint resulting in continual and reliable collections



Higher Donor and Employee Engagement and Retention

Delivering on the employee and donor experience makes **the difference**, what ensures Grifols can withstand competition and market fluctuations



Employee Experience Directly Impacts the Donor Experience

Grifols' Employees Proudly Help Patients Around the World

PRE-EMPLOYMENT and ONBOARDING

IN-CENTER EXPERIENCE

EMPLOYMENT TENURE



Reputation for industry recruiting, onboarding, wages and benefits

Strong training programs and a focus on team building, ownership, and work-life balance

Opportunities for advancement, engagement, progressive training and skill enhancement

CULTURE OF SERVICE

How does employee experience impact the donor experience?

1

When employees **feel part of a team** and that **they matter** they treat donors in the same way

2

Well-trained and well-rested employees are more **confident** and **positive** and will **delivering a more consistent and exceptional donation experience**

3

Long-term employees establish **meaningful connections** with donors, that **stay loyal** because they want to continue to see their favorite employees



Success Depends Upon the Donor Experience

Donors Feel Good Knowing Their Plasma Helps Patients Around the World

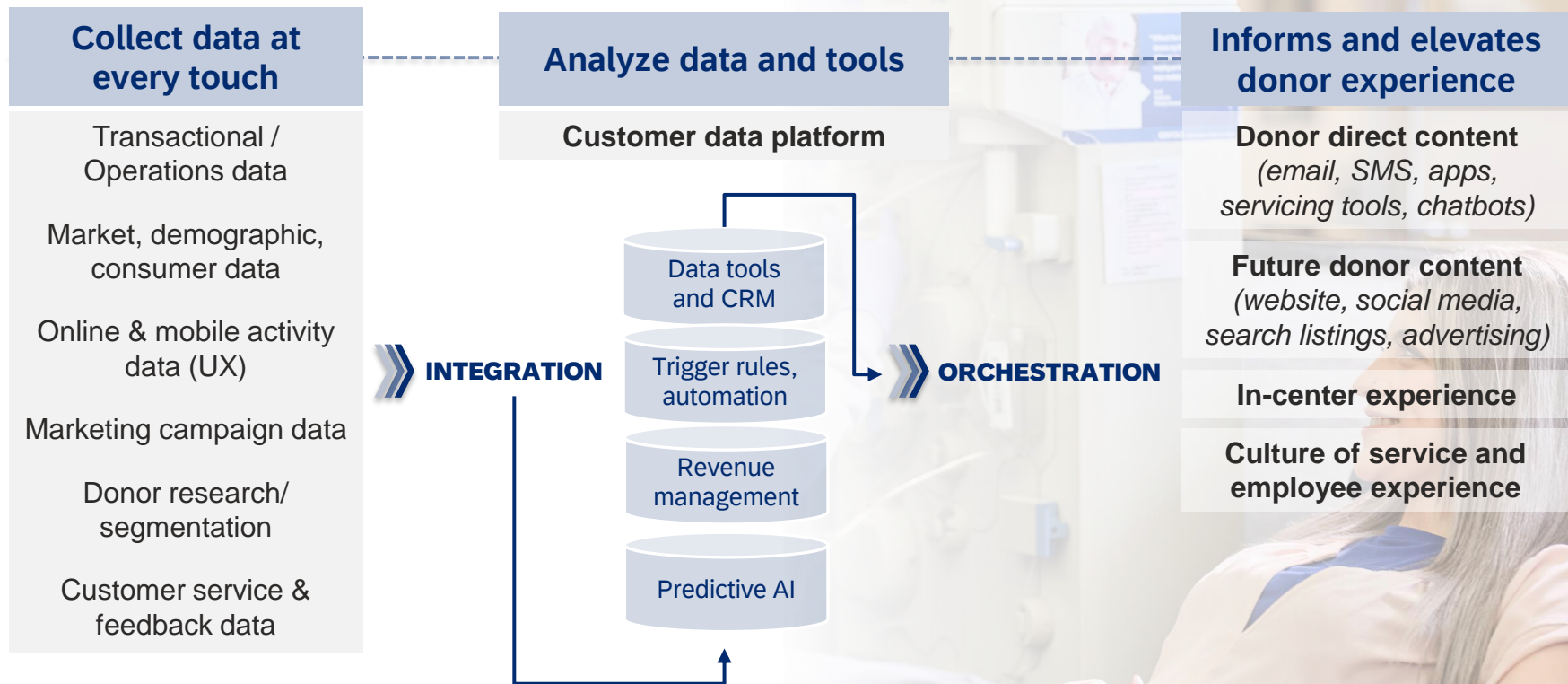


Powered by Grifols technology and digital infrastructure

Donors' online activity, behavior and in-center experience are captured and analyzed, providing a **360-degree real-life view about the donor**

The Development of Donor Experience

Technology and Data Infrastructure Support Donor Experience





Building Momentum Through Our U.S. Recruitment Campaigns

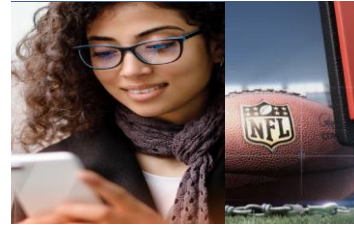
Successfully Encouraging People to Donate Plasma

In **2020**, we launched the **industry's first national campaign**, doubling new donor numbers at the height of COVID. Since then, U.S. coverage continues to grow

- ✓ Leveraged **donor segmentation** data to target attractive future donor audiences
- ✓ **Expanded** across **broadscale channels**: digital, video ads, streaming TV and radio, local media and sponsorships
- ✓ Launched lead generation and lead nurturing emails, capturing nearly 250k prospects, with **higher conversions, engagement** and **frequency**



Give Your Light



Answer The Call



Show Your Good Side



2020

2021

2022

Moving forward...

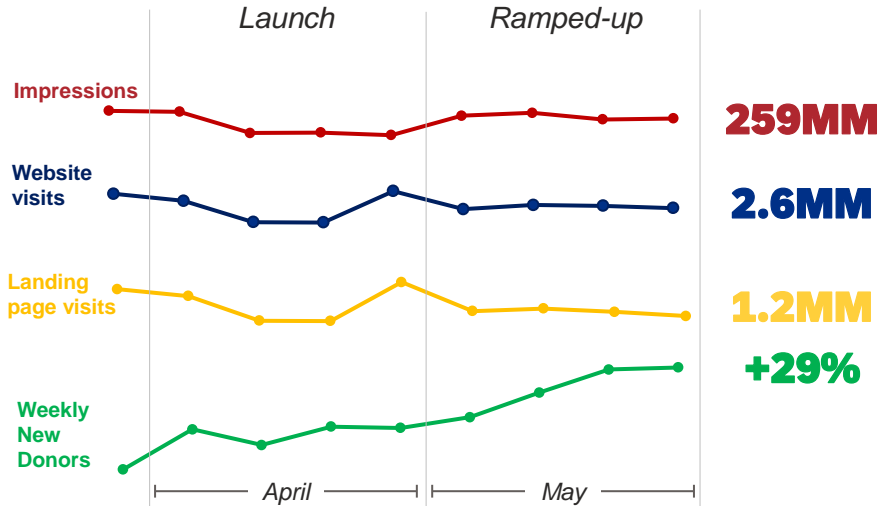
- Continue to **build awareness** and **engagement** with future donors, using uninterrupted recruitment campaigns
- Gained momentum, building on continued learnings to **expand** and **refine recruitment messaging** and **tactics**
- Expand **digital presence** across channels to secure market leadership, reaching and converting future donors to new donors



Building Momentum Through Our U.S. Recruitment Campaigns

Successfully Encouraging People to Donate Plasma

2022 Performance metrics



✓ Benefits

- Raised **broad awareness** on the benefits and need of plasma donations
- Recruited **new donors** and **recapture donors** who lapsed in plasma donations
- Reinforced messaging of **life saving medicines** and **donor compensation** benefits
- Delivered **recruitment diversity** within targeted demographics

Omni-Channel Marketing Plan

Social Media	Programmatic Audio & Video	Meredith Partnership (online publications) & NBCU Partnership
Search	NFL Digital	

Significantly Increasing the Number of New Donors in Europe Through Our National Recruitment Campaigns

In **2021**, we launched the **first German national campaign** to highlight benefits for donors, increasing new donor numbers during the pandemic. The number of new donors has since increased significantly

- ✓ New approach: modern, young and eye-catching
- ✓ Key visuals: show pleasing images or benefits related to donating plasma
- ✓ Target group: young people and individuals facing economic difficulties in pandemic times
- ✓ Multichannel: online, digital, social ads, streaming TV and radio, out-of-home ads, public transport
- ✓ Key element: landing page with appointment system



Deserve More Than Respect

2021



Rising Prices Fuel & Energy

2022



Help Twice (Ukraine)



Save Lives & Relax

Moving forward...

- Expand **digital tools** and insights of donors needs and motivation for **data-driven marketing campaigns**
- Delimitation from competitors and **leadership** by **using donor-experience technologies** and **services**
- **Greater awareness** of plasma donation is indispensable to produce life-saving medicines



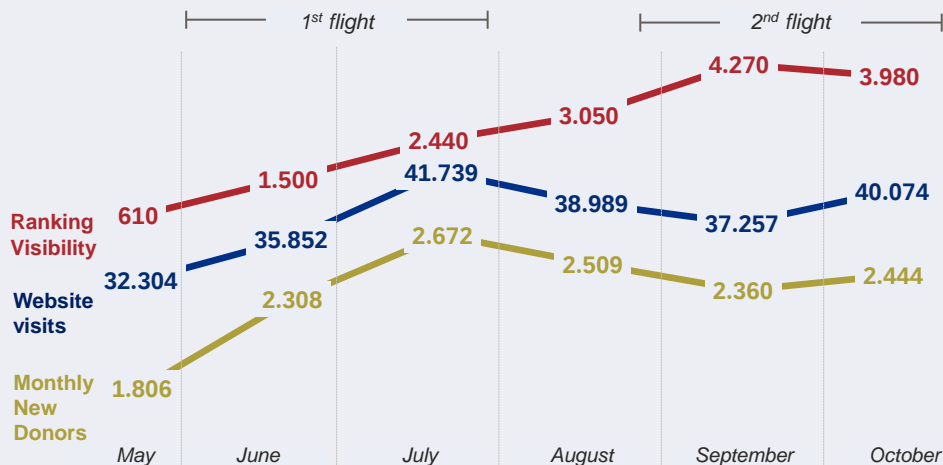
Significantly Increasing the Number of New Donors in Europe Through Our National Recruitment Campaigns

- ✓ **Extension** of the targeted demographics **from young to older**
- ✓ **Expansion** of **leadership position** in social media & online among competitors
- ✓ Development of **data-driven marketing** along the **customer journey**
- ✓ Implement a wide range of **new technology/systems** and **upgrade donor app**

Online Focused Multi-Channel Marketing:

Social media	Online Advertorials
SEO/SEA	Partnerships
Programmatic audio & video	Guerilla
	Out of home

2021 Performance “Deserve More Than Respect”

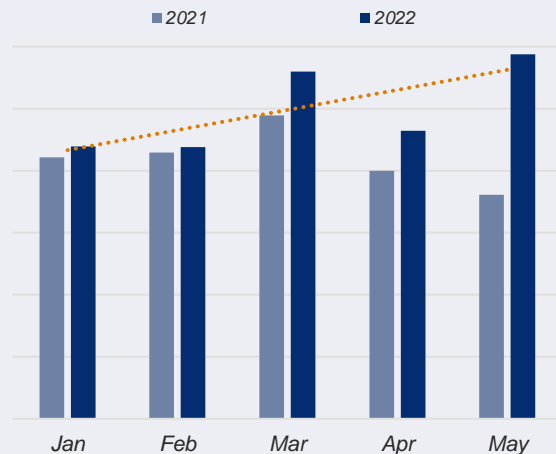


5-fold increase in search volume

10,000 more

+30% on average

Monthly New Donor Performance



Leveraging a Unique Combination of Plasma Capacity & Capabilities to Accelerate Performance

Double-digit plasma growth addresses expected plasma needs for 2022 to meet strong underlying demand

Current **macro-economic context** drives momentum on plasma collections

Successful execution of **expansion plan** through strong integration response

The reorganization will enable to fully capture benefits of **scale** and **integration**

Reinforcing **Donor and Employee Experience** to gain further efficiencies while ensuring sustainable growth

Continue to build **plasma awareness** and **donor marketing campaigns** to support further plasma donations

GRIFOLS 2022 Investor & Analyst Day

CANADA AND EGYPT

Responding to the Global Need for a Sustainable Plasma Model

Daniel Fleta, Chief Industrial Officer

GRIFOLS
EGYPT

Responding to the Global Need for a Sustainable Plasma Model

Game-Changing Initiatives to Become a Blueprint for Other Countries

PLASMA AS A **STRATEGIC ASSET**



“The World Health Organization urges state members to take all the necessary steps to establish, implement and support nationally-coordinated, efficiently-managed and sustainable blood and plasma programs according to the availability of resources, with the aim of achieving self-sufficiency, unless special circumstances preclude it”¹



COVID-19 pandemic

Increased emphasis on the importance of plasma supply and its limitations



Growing demand for plasma-derived therapies

New indications and higher-prevalence diseases

Diagnosis and prescriptions are increasing



Grifols' capabilities make it ideally fitted to serve as an international partner



Grifols Self-Sufficiency Program

Working with countries in building sustainable plasma-collection models

Establish donor-center networks in other countries with international quality standards

Full range of services

Manufacturing capabilities

Engineering competences

Quality & safety standards

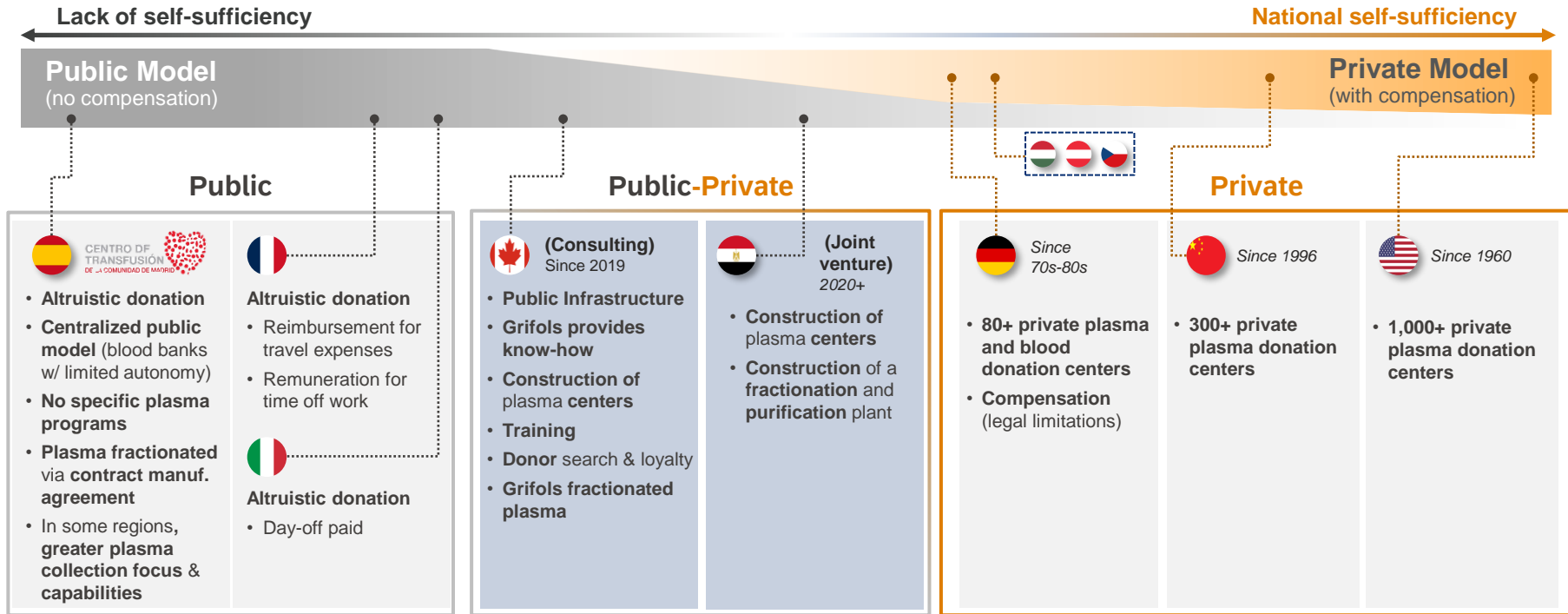
Regulatory know-how

**GRIFOLS COVERS
END-TO-END NEEDS**

¹ World Health Organization (WHO) (<https://www.who.int/publications/i/item/WHA63.12>)

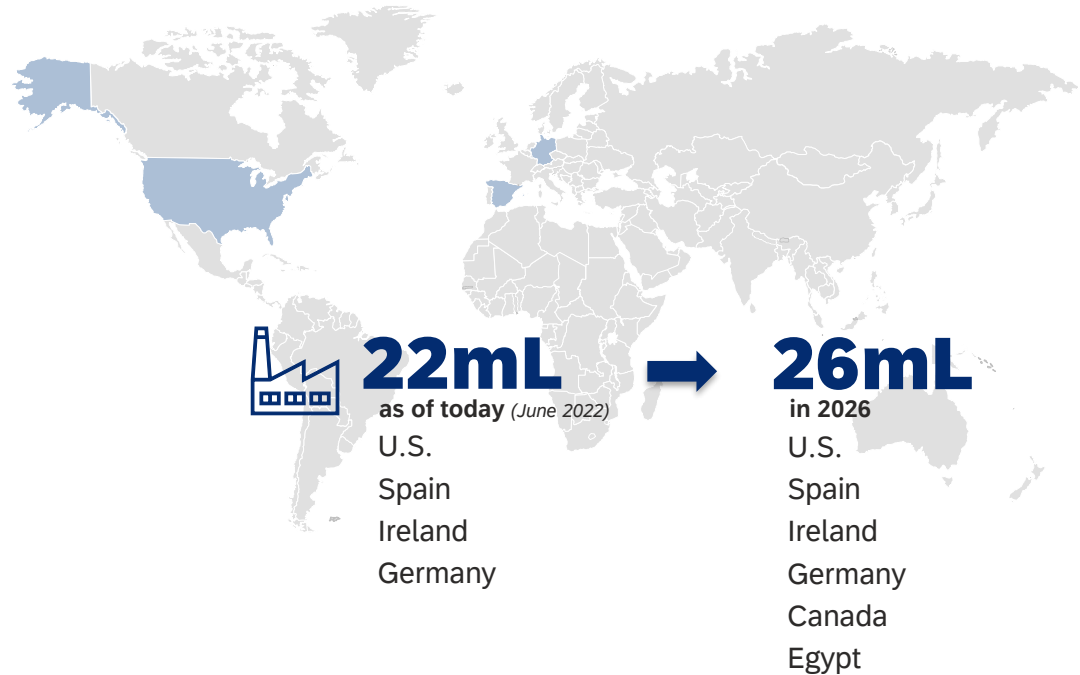
Responding to the Global Need for a Sustainable Plasma Model

Self-Sufficiency Management Models



Ensuring Sufficient Capacity

Fractionation Capacity Global Footprint



Canada: Leveraging Our Experience and Capabilities...



Well-Positioned to Satisfy the Country's Needs

Canadian plasma-derived therapies market



Grifols is the best positioned company in Canada

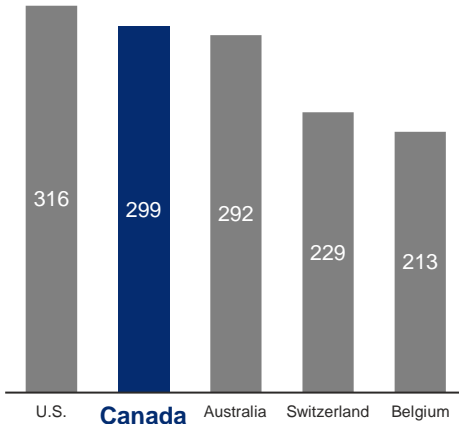
2021 IgG Kg / inhabitants

2nd World IgG Consumer



Mature and stable market with high consumption of IgG levels

... but Canadian government seeks to be more self-sufficient



Source: Global Market Database, 2021 preclosing

Deep experience in the Canadian market, with more than 30 years as the **primary fractionator** for Canada's blood operators



Only **large-scale domestic manufacturing facility** and uniquely positioned for continued growth across **full platform of service offerings**



Grifols has a **local fractionation, purification and fill & finish plant**

Grifols Canada Therapeutics (GCT)

Strategic Location



Construction of a New State-Of-The-Art Plant

Canada Site Facts

✓ Acquired by Grifols October 1, 2020

- Located in **Technoparc**
Montreal, Quebec
- Plot: **63,134 m²**
Built: **19,865 m²**
- 3-story building
- Manufacturing, warehouse &
QC lab and admin building



Canada Current Facility



Canada Expansion Project Construction



+6,600 m²

Phase I August 22

Albumin
Purification

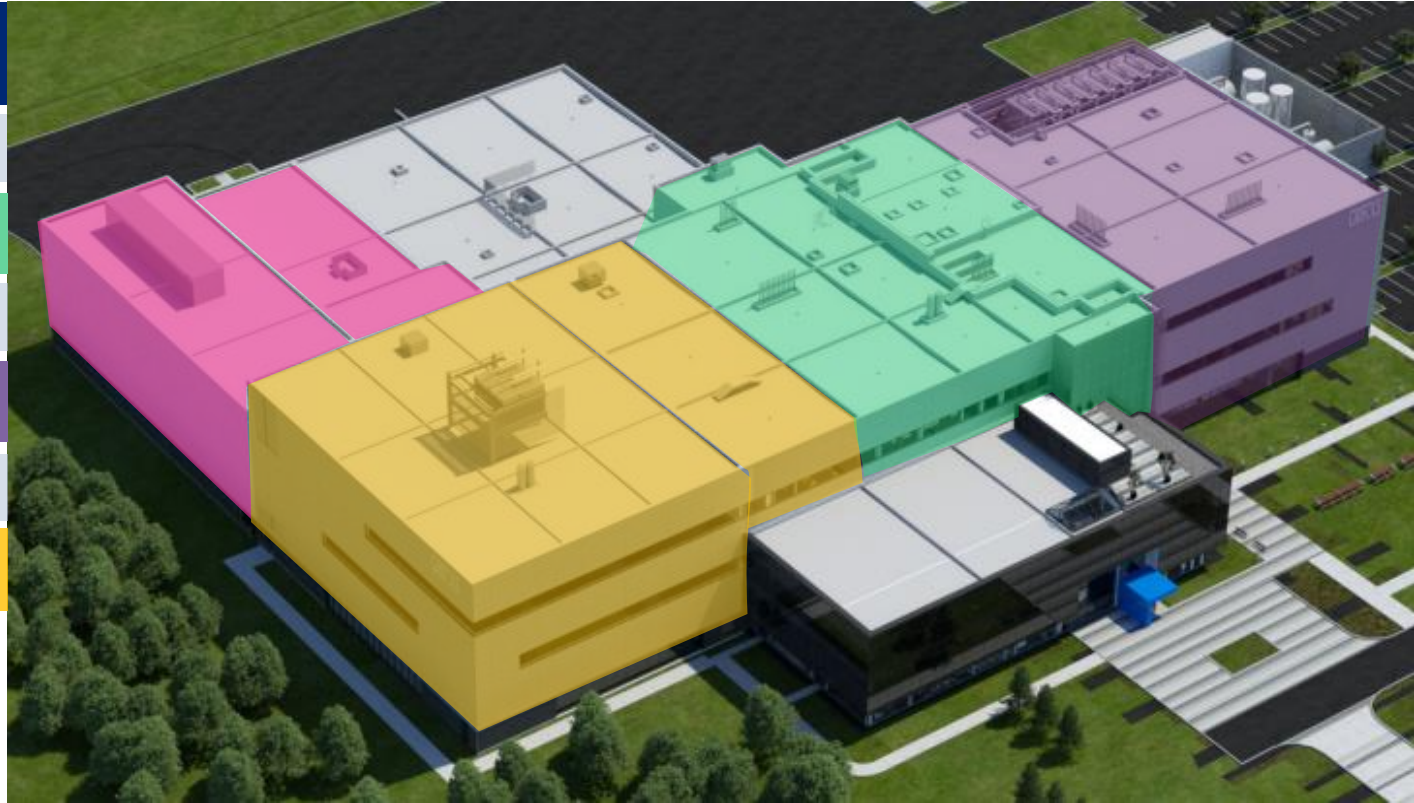
Phase II Sept '23

Fractionation
Expansion

Phase III Nov '24

Warehouse
Expansion

Gamunex
Expansion



Albumin Conversion – Phase I, August 2022



Egypt: Delivering On Our Promises Through a Pioneering Model



Overcoming Challenges to Strengthen Egypt's Healthcare System

Egyptian plasma-derived therapies market

Challenge



National mandate to develop the healthcare system

1

Establish a **public-private** partnership



Master Joint Venture Agreement Signature

Plasma-derived medicines needed for its **growing population**

2

Plasma executive **regulation**



Issued Law Number 8 of 2021

Government committed to the country's **self-sufficiency**

3

Develop the adequate **infrastructure**



Plasma site allocations, constructions, recruitment and training, storage facilities, transportation

1st
plasma center
opened
(+19 planned)

4

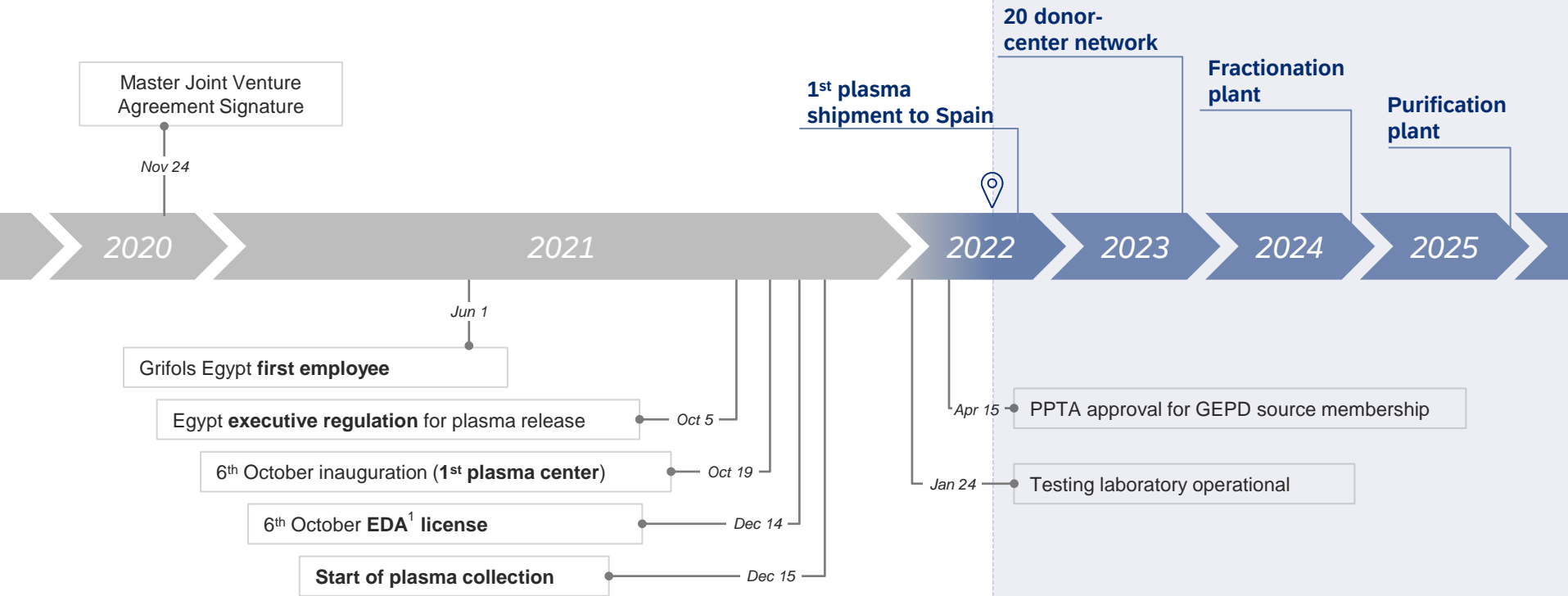
Creating **community awareness** for plasma donation



Launch of plasma and donation **informational campaign**

Achievements Clear the Path for Future Milestones

✓ Year 1: Grifols Successfully Laid the Foundations of the Egypt Project



First EDA¹ Licensed Donor Center in Egypt

Paving the Way for the First Integrated Plasma-Supply Platform in Africa



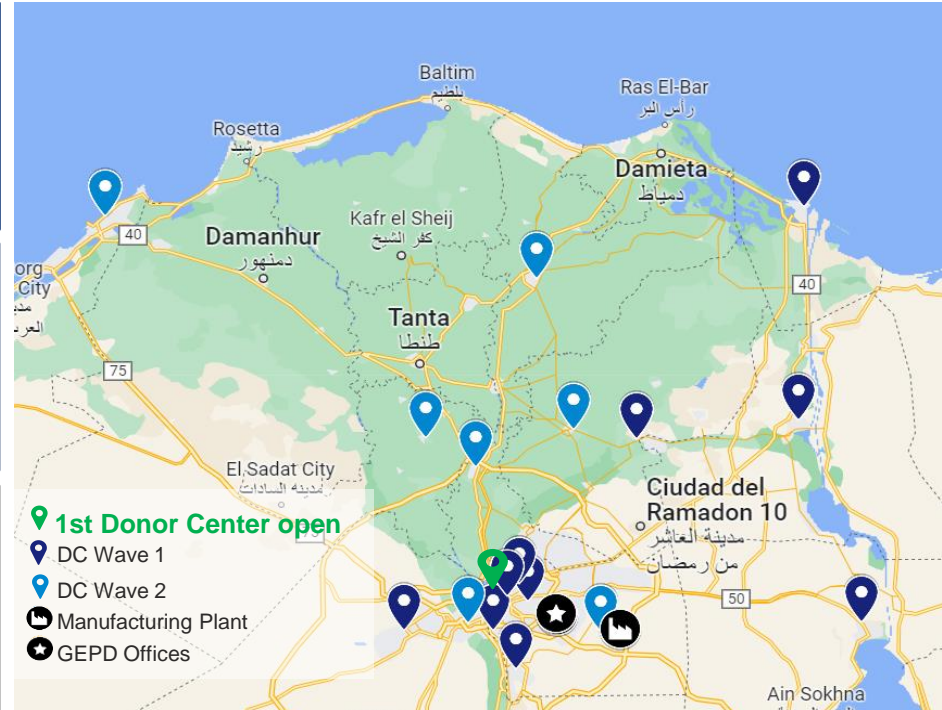
Donor center, plasma testing labs, plasma freezers warehouse, Grifols Academy for Plasmapheresis and plasma operations offices

¹ Egyptian Drug Authority (EDA)

Plans on Track for the Construction of 20 Donor Centers

10 Plasma Collection Centers Projected in Wave 1 (10+ in Wave 2)

<p>1st Zone SOUTH CAIRO</p>	<p>Maadi Helwan Misr Al Gadida</p>	
<p>2nd Zone EAST CAIRO</p>	<p>Military Institute Nasr City Port Said</p>	
<p>3rd Zone CANAL ZONE</p>	<p>Suez Tal Kabeer Ismailia</p>	



Plans on Track for the **Manufacturing Site Construction**



New Administrative Capital



Responding to the Global Need for a Sustainable Plasma Model

Key Takeaways

Self-sufficiency is crucial to guarantee the **sustainability** of **plasma-derived medicines supply**

Grifols positions to serve as a **best-in-class partner** through **private or public/private** initiatives to support a sustainable plasma model

Grifols' unique **know-how** and leadership in **engineering** and **operations** represents a **competitive advantage** to execute these projects

Milestones in **Egypt** and **Canada** reflect how Grifols **delivers on its promises**

The implementation of **international quality standards** strengthens the **safety & efficacy** of our medicines

Best positioned to capture new opportunities...
Becoming a **blueprint** for **other countries** to increase plasma self-sufficiency levels

GRIFOLS 2022 Investor & Analyst Day

BIOPHARMA

Poised for Performance in an Essential and Growing Market

Bill Zabel, EVP Commercial Operations

Joana Sàbat, SVP Global Marketing & Market Access



**Poised for
performance...**



**... in an essential
and growing market**



Grifols Is Well Positioned to Get Back to Growth

Driven by Biopharma Strengths



Global **plasma-derived proteins** market is an **attractive market that continues to grow**



FY20 sales
EUR 25Bn€ (**7.2%**¹ CAGR 2017-2020)



IG, Alpha-1 and Albumin ----- **defy the normal life-cycle** of a pharmaceutical product ----- **keep growing** to address the **large unmet medical need**



Uniquely positioned with a specialized focus on **therapeutic areas**



Immunology



Pulmonology



Intensive Care & Hepatology



Neurology



Hematology



Infectious diseases



Therapeutic areas of expertise + **Infrastructure** = capability to deliver **plasma** and **non-plasma** life-saving medicines **globally**



Bioscience ➔ **Biopharma**



Reflects the **opportunity**

¹ The Worldwide Plasma Proteins Market, MRB, February 2022



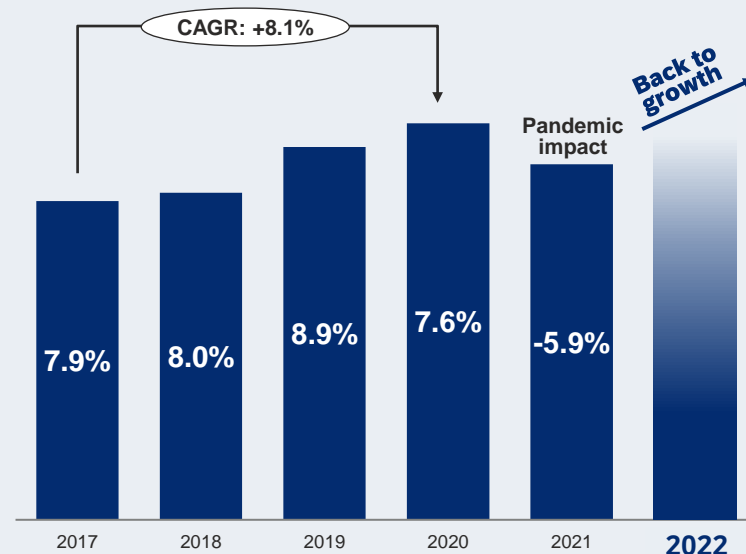
Underlying Demand Supports Further Growth

Core growth products

show **positive trend** in Q1'22 vs. Q1'21

IgG	Back to growth , driving Biopharma sales recovery
Albumin	Strong start of the year, driven by sales in China and U.S.
Alpha-1	Increasing market share and sustained growth during 2021 and 2022
HyperRAB®	Consolidated market leader , growing year over year

Bioscience Revenues
(EUR in millions, growths at cc)





Underlying Demand Supports Further Growth

Main geographies

show **significant recovery** in Q1'22 vs. Q1'21



U.S.

Recovering **high-single-digit** growth



China

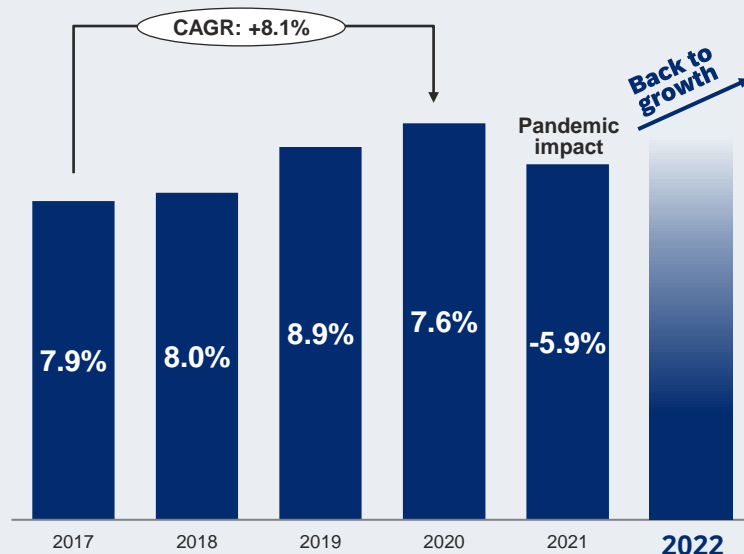
Strong albumin growth driving **double-digit-growth**



Europe

Sustained growth

Bioscience Revenues
(EUR in millions, growths at cc)





Building on Biopharma Portfolio With Recent Product Launches

Deep Knowledge and Capabilities Coupled With a Focus on Therapeutic Areas



Immunology and Neurology

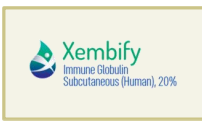
Treating immune deficiencies and autoimmune disorders



Immune globulin injection (Human), 10%
cryoprecipitated



Flebogamma® DIF
Human Normal Immunoglobulin (Vig)
50 mg/ml 100 mg/ml



Xembify
Immune Globulin Subcutaneous (Human), 20%



Pulmonology

Treating AATD¹, a genetic condition that can lead to serious lung disease



READY-TO-INFUSE
PROLASTIN® C LIQUID
alpha-1-proteinase inhibitor (human)



PROLASTIN®



Infectious Diseases

Providing rapid immune coverage in potentially life-threatening situations



HyperRAB®
Rabies Immune Globulin (Human)
300 IU/mL

New formulation



HyperHEP B® S/D
Hepatitis B Immune Globulin (Human)



Hypermunes®
In tune with the immune™



GameSTAN® S/D
Immune Globulin (Human)



HyperTET® S/D
Tetanus Immune Globulin (Human)



TdVax
tetanus and diphtheria toxoids adsorbed



Hematology

Treating hemophilia and other bleeding and clotting disorders



Thrombate III®
antithrombin III (human)



Alphanate®
Human coagulation FVIII/VWF complex



Fanhdi®
Human coagulation FVIII/VWF complex



Koate®-DVI
Antihemophilic Factor (Human)



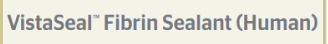
Profilnine®
Factor IX complex



AlphaNine®
Human coagulation Factor IX



HyperHO® S/D
Human coagulation Factor VIII



VistaSeal® Fibrin Sealant (Human)



Tavlesse®
Film-coated tablets
fostamatinib



Intensive Care and Hepatology

Treating the critically ill patient and the patient with liver cirrhosis



Albutein
Human Albumin



Albutein® FlexBag™
Albumin (Human) U.S.P.



Plasbumin
Albumin (Human), USP



Human Albumin
Grifols

Recent product launches

¹ Alpha-1 Antitrypsin Deficiency (AATD)

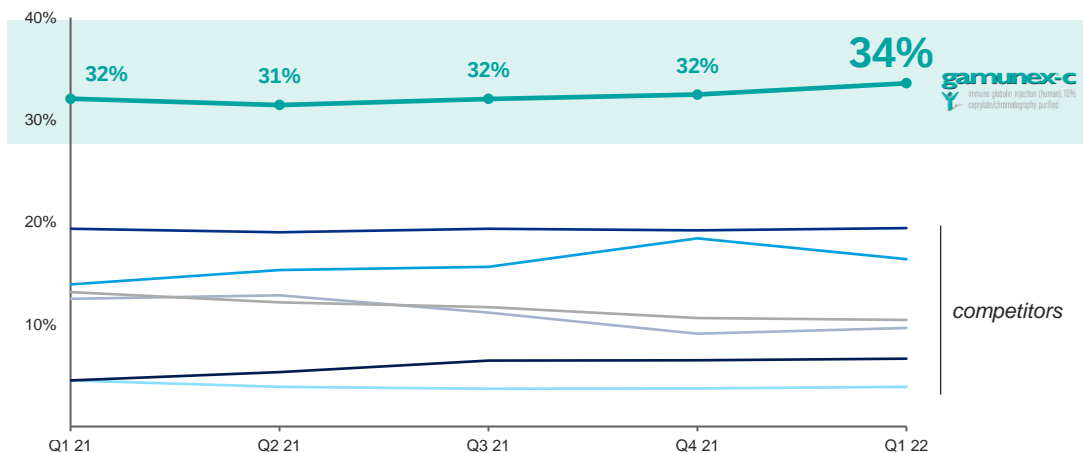


Leading an Increasingly Competitive U.S. CIDP¹ Market

Gamunex[®]-C Recognized as the #1 Prescribed IG for CIDP

CIDP Market

% Share IG CIDP Procedures



competitors



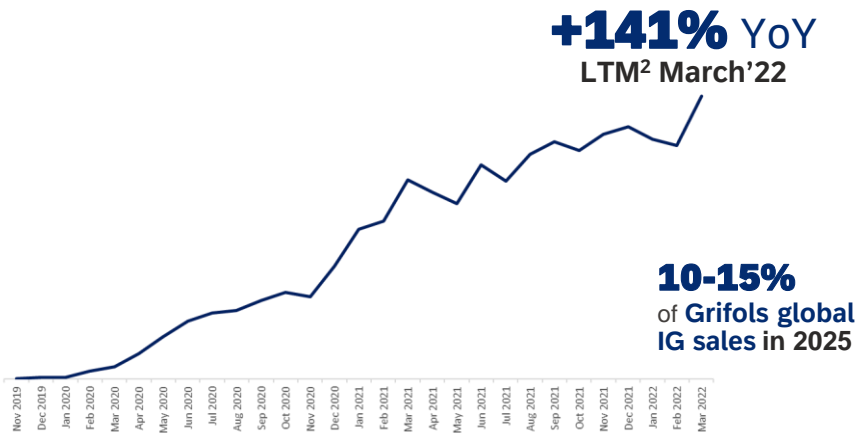
Source: LexisNexis Trending Data, Medical Claims only; and Gamunex[®]-C and GammaKed share a J-code
¹ Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)



Xembify® Continues to Gain U.S. Market Share

 Supporting Patients by Providing a New Solution That HCPs¹ Rely On

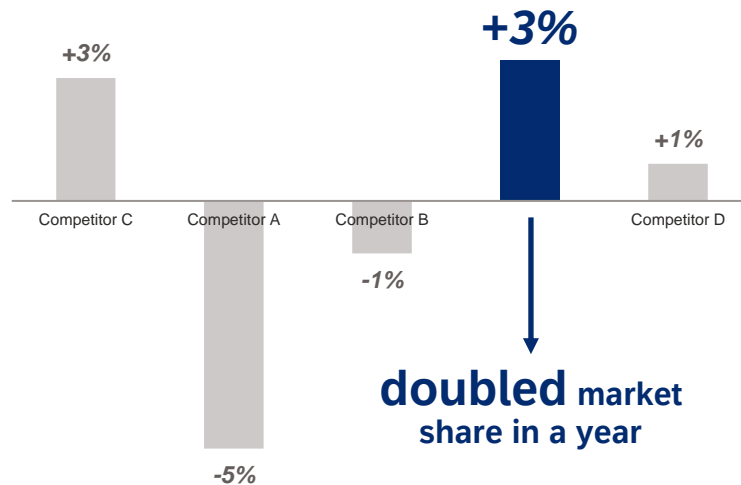
 **Xembify volume growth** since launch...
Immune Globulin Subcutaneous (Human), 20%



Over **1,000 U.S. HCPs** have prescribed Xembify® since its launch and **87% continue to prescribe** it

... and **market share** evolution in PI³

(Last 12 months)



Source: Grifols Internal data

¹ Health Care Practitioners (HCPs)

² Last Twelve Months (LTM)

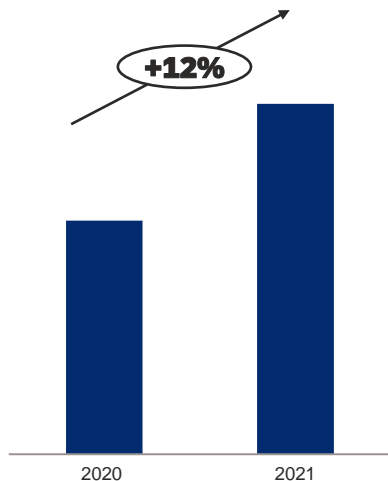
³ Primary Immunodeficiency (PI)



... While Expanding to New Geographies Outside the U.S. SCIG Represents 23% of Volume in EU/Australia

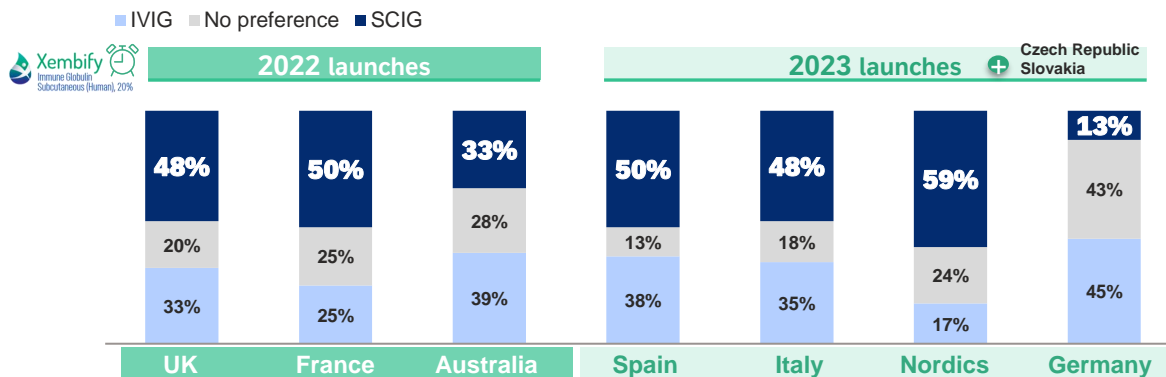
SCIG continues to **grow**

(EU & Australia market)

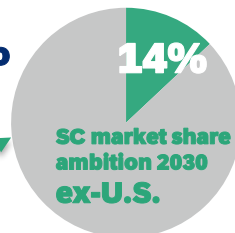


🌐 **Launching Xembify® in several European countries throughout 2022 and 2023** leveraging on increasing growth of SCIG preference over IVIG

Preferred route of administration for IG therapy by market (% HCPs)



... leading to



helping IG franchise to **grow high-single-digit YoY**

Sources: (i) Grifols Database provisional data 2021 (accessed May'22); (ii) Grifols ATU Study 2022. Base: All HCPs. Germany (n=40), France (n=40), Italy (n=40), Spain (n=40) UK (n=40) Nordics (n=29) and Australia (n=36)

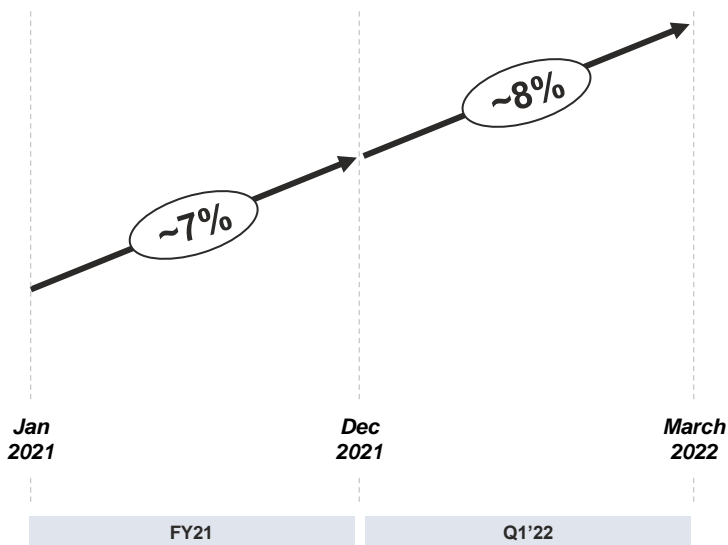


Leading the Alpha-1 Market for 35 Years

Prolastin^{®1} Shows Steady Growth in 2021 and Q1'22

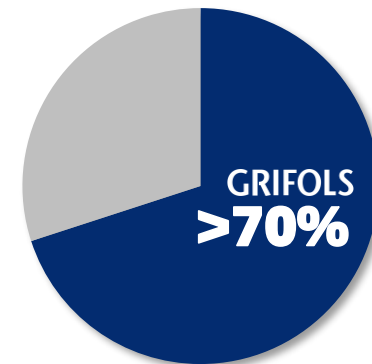


Steady **growth**...



... in the Alpha-1 antitrypsin **market**

(worldwide market in 2021)



7 out of 10

Alpha-1 patients globally are receiving Prolastin[®]

Source: Grifols Internal data

¹ Prolastin[®] includes all Grifols Alpha-1 brands



Leading the Alpha-1 Market for 35 Years

Prolastin^{®1} Shows Steady Growth in 2021 and Q1'22



Sustained and reliable **product supply**...

Helping ensure HCPs and patients have **access to Prolastin[®]** when and where it is needed



Context

Competitor **alpha-1 product shortage** in Q4'20-Q1'21 **challenged treatment continuity** in EU



Grifols **was ready** to immediately **put in place all efforts**, guaranteeing **Prolastin[®]** to patients

... backed by **Patient Support Programs**

Patient health management programs provide personalized care and home infusion

- ✓ Personalized support and benefits beyond therapy
- ✓ Significant improvements in compliance with therapy and health outcomes after intervention year²

¹ Prolastin[®] includes all Grifols Alpha-1 brands

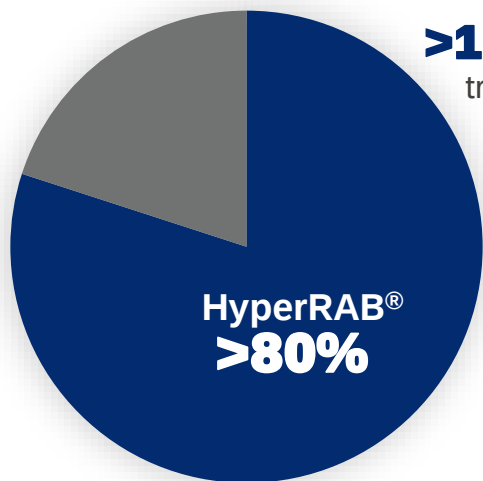
² Sandhaus RA, Turino G, Brantly ML, et al. The diagnosis and management of alpha1-antitrypsin deficiency in the adult. J COPD Foundation. 2016;3(3):668-682



HyperRAB® Driving Hyperimmunes Portfolio

Record Sales in 2021

Rabies IG Market (2021)



>1M patients

treated with HyperRAB®
since launch



Comprehensive HRIG¹ Solution

First and only high-potency HRIG that enables the delivery of more of the total dose per mL at the wound site, regardless of the wound size or patient weight ^{2,3,4}



Graph source: Grifols Database provisional data 2021 (accessed May'22)

¹ Human rabies immune globulin (HRIG)

² HyperRAB (rabies immune globulin [human]) Prescribing Information. Grifols.

³ Siegel J. Rabies Immune Globulin: Ensuring Administration Safety. Pharmacy Practice News Special Edition. 2019: 47-52.

⁴ Manning SE, Rupprecht CE, Fishbein D, et al; Advisory Committee on Immunization Practices Centers for Disease Control and Prevention (CDC). Human rabies prevention—United States, 2008: recommendations of the Advisory Committee on Immunization Practices. MMWR Recomm Rep. 2008;57(RR-3):1-28



Albutein FlexBag™ Successful Launch

Designed, Engineered and Manufactured by Grifols



 High degree of **satisfaction** among **customers...**

✓ First and only 5% 500mL offers **convenience**

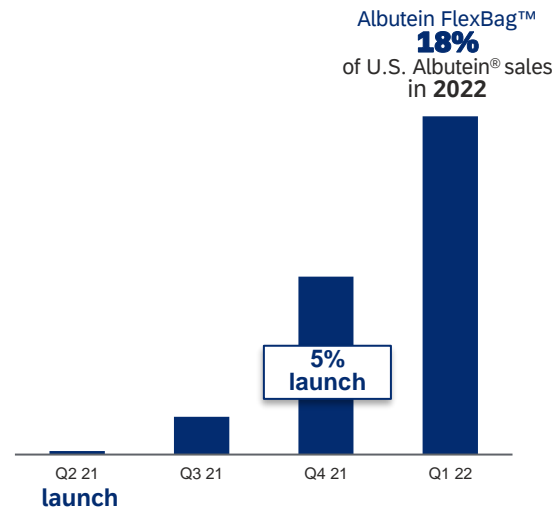
✓ **Availability** of both 5% and 25% strengths

✓ **Storage** and **portability** vs. vials

✓ **Ease of use/administration** vs. vials

✓ **Environmentally-friendly** design

... reflected in **revenues** backed by fast adoption in the U.S.



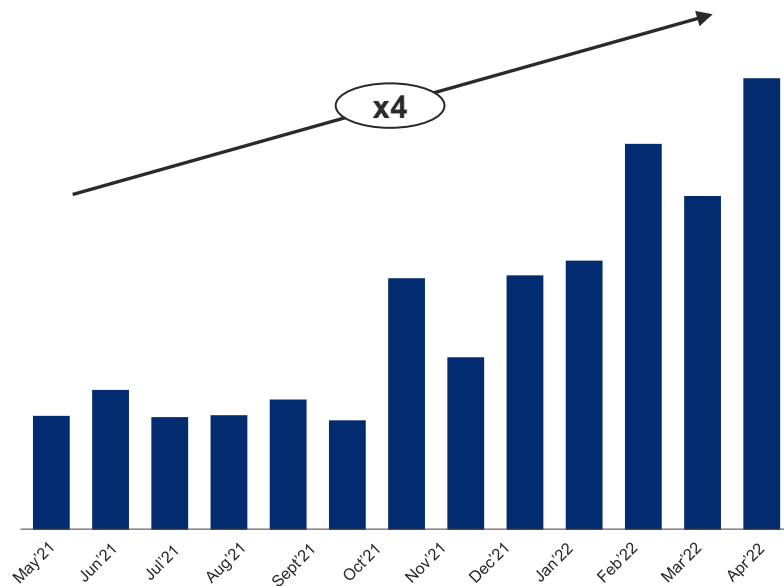
¹ Albutein® includes all Grifols albumin brands



Tavlesse® Continues to Gain Traction

Successfully Launched in Multiple European Countries, Including EU4¹

 Sales volume (last 12 months)



First launching country
Germany
On track
 throughout 2021

Exceeding
volume targets in
 Spain and Italy

Launches **proceeded**
during the pandemic

Launch timelines in
progress for
12 more countries
 in 2022-2023

Sources: Internal data; (i) Price and Reimbursement ; (ii) Health Technology Assessment

¹ Includes France, Germany, Italy and Spain



Vistaseal® Market-Leading Fibrin Sealant in the U.S.

Recovery of Elective Surgical Procedures Following Pandemic-Related Interruptions

Double-digit growth at **cc** worldwide in FY21 vs. FY20

Continued **acceleration** of **Vistaseal®/VERASEAL®** launches



Globalization and scale-up efforts underway

 Entering **3rd** year post-launch

2020 Germany, Austria, UK, Ireland ✓

2021 Nordics, Puerto Rico, France, Singapore, Netherlands ✓

2022 Canada, Italy, Switzerland, Estonia, Australia ✓

2022 Baltics (2)

2023 Spain, rest of APAC and EMEA, and new markets (Russia, Israel, Saudi Arabia)

More to come...

2nd plasma protein sourced from Grifols approved in the U.S.

Ongoing joint development of innovative solutions



3rd plasma protein to deliver future biosurgery products that address bleeding and leak management in surgery





Poised for
performance...



... in an essential
and growing market







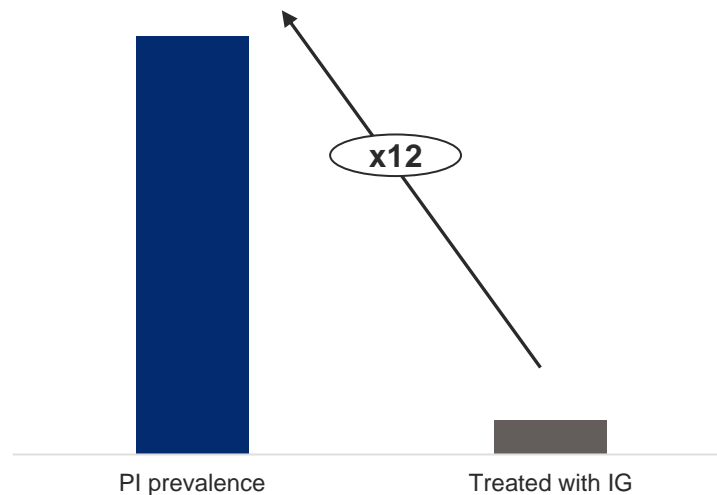
Further Growth in IG Market Driven by Progress in PI¹ Diagnosis

Operating in an Essential and Growing Market

PI underdiagnosis facts

- Average diagnosis ➔ **12.4 years**²
- Undiagnosed  ➔ **70-90%**³
- **500,000** undiagnosed  ⁴ (NIH estimates)
- **>400 related-genetic defects**⁵

PI patients (in millions worldwide)⁶



¹ Primary Immunodeficiency (PI)

² Routes J, et al. J Clin Immunol. 2016;36:450-461

³ Primary Immunodeficiencies (PID) – Driving Diagnosis for Optimal Care in Europe, European Reference Paper

⁴ Modell V. Immunol Res. 2007;38(1-3):43-47

⁵ French MA, Tangye SG. J Infect Dis. 2019;jiz230. doi:10.1093/infdis/jiz230



⁶ Grifols Internal Source



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Operating in an Essential and Growing Market

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⁴ Modell V. Immunol Res. 2007;38(1-3):43-47

⁵ French MA, Tangye SG. J Infect Dis. 2019;jiz230. doi:10.1093/infdis/jiz230

Grifols Strategic Imperative Truncating time to diagnosis and treatment

Uniquely positioned to leverage our expertise in IG replacement therapy and diagnostics to **improve the rate and time to an appropriate PI diagnosis**



Grifols is actively partnering with insurers and patient groups to **apply artificial intelligence programs** to identify patients who may benefit from laboratory or genetic testing to detect the possibility of an underlying immune deficiency exists



SID Market Continues to Expand in Hematological Malignancies

Plans on Track for Xembify® to Treat New Key Indications e.g., CLL¹ and HGG²

(IG growth in SID worldwide)



IG growth in SID

- ✓ Increased use of SID-inducing medication in **oncological** and **autoimmune** indications
- ✓ Extended survival rates of cancer patients
- ✓ **Hypogammaglobulinemia** occurs in up to 85% of patients^{4,5}
- ✓ **Infections** are major **cause of death** in patients with **CLL**

Grifols has a **Clinical Development Plan** for HGG and CLL with Xembify®

Continued **commitment** to SIDs patients



¹ Chronic Lymphocytic Leukemia (CLL)

² Hypogammaglobulinemia (HGG)

³ US PPTA Distribution Data

⁴ Friman V et al. Hematol Oncol. 2016;1-12: doi 10.1002/hon.2323. [Epub ahead of print]

⁵ Seppänen M. Clin Exp Immunol. 2014;178(Suppl 1):10-13.




Accelerating AATD¹ Diagnosis as Our Primary Goal

Further Expanding Our Testing Program Worldwide

AATD underdiagnosis facts

● Avg. delay between the onset of symptoms and diagnosis ➔ **8.3 years²**

● **2.7²** avg. number of **physicians** seen by patients before diagnosis 

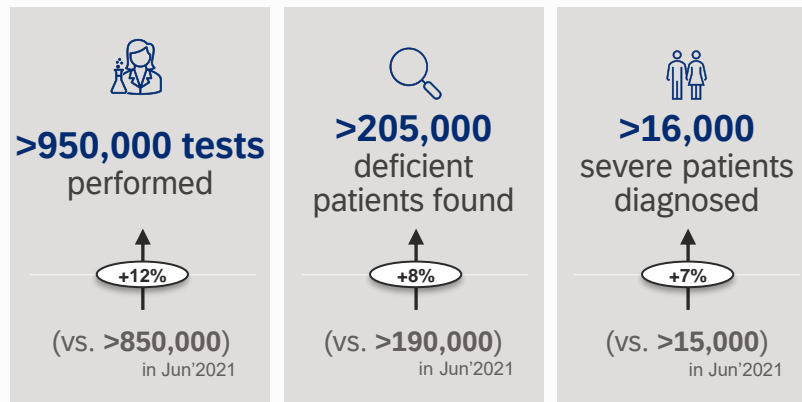
● **Patients** present with **common respiratory symptoms^{3,4}** 

● **Diagnosis does not depend on clinical presentation alone**
Laboratory testing is the only way to make the diagnosis^{2,5,6,7}

Grifols Strategic Imperative

Truncating time to diagnosis and treatment

Grifols' worldwide testing program (since 2006)



¹ Alpha-1 Antitrypsin Deficiency (AATD)

² Campos MA, Wanner A, Zhang G, et al. Trends in the diagnosis of symptomatic patients with alpha1-antitrypsin deficiency between 1968 and 2003. *Chest*. 2005;128(3):1179-86.

³ World Health Organization. Alpha 1-antitrypsin deficiency: memorandum from a WHO meeting. *Bull World Health Organ*. 1997;75(5):397-415.

⁴ McElvaney NG, Stoller JK, Buist AS, et al. Baseline characteristics of enrollees in the National Heart, Lung and Blood Institute registry of alpha1-antitrypsin deficiency. *Chest*. 1997;111(2):394-403.

⁵ ATS, ERS. American Thoracic Society/European Respiratory Society statement: standards for the diagnosis and management of individuals with alpha-1 antitrypsin deficiency. *Am J Respir Crit Care Med*. 2003;168(7):818-900.

⁶ Sandhaus RA, Turino G, Brantly ML, et al. The diagnosis and management of alpha1-antitrypsin deficiency in the adult. *J COPD Foundation*. 2016;3(3):668-682.



⁷ Global Initiative for Chronic Obstructive Lung Disease. *Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease*. 2021 Report

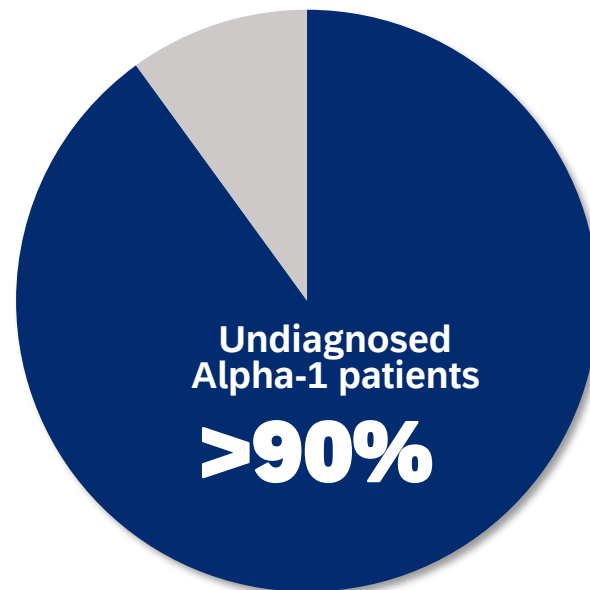


Accelerating AATD¹ Diagnosis as Our Primary Goal

Dedicated Efforts to Increase the Diagnosis Ratio

AATD underdiagnosis facts

- Avg. delay between the onset of symptoms and diagnosis → **8.3 years²**
- **2.7²** avg. number of **physicians** seen by patients before diagnosis 
- **Patients** present with **common respiratory symptoms^{3,4}** 
- **Diagnosis does not depend on clinical presentation alone**
Laboratory testing is the only way to make the diagnosis^{2,5,6,7}



¹ Alpha-1 Antitrypsin Deficiency (AATD)

² Campos MA, Wanner A, Zhang G, et al. Trends in the diagnosis of symptomatic patients with alpha1-antitrypsin deficiency between 1968 and 2003. *Chest*. 2005;128(3):1179-86.

³ World Health Organization. Alpha 1-antitrypsin deficiency: memorandum from a WHO meeting. *Bull World Health Organ*. 1997;75(5):397-415.

⁴ McElvaney NG, Stoller JK, Buist AS, et al. Baseline characteristics of enrollees in the National Heart, Lung and Blood Institute registry of alpha1-antitrypsin deficiency. *Chest*. 1997;111(2):394-403.

⁵ ATS, ERS. American Thoracic Society/European Respiratory Society statement: standards for the diagnosis and management of individuals with alpha-1 antitrypsin deficiency. *Am J Respir Crit Care Med*. 2003;168(7):818-900.

⁶ Sandhaus RA, Turino G, Brantly ML, et al. The diagnosis and management of alpha1-antitrypsin deficiency in the adult. *J COPD Foundation*. 2016;3(3):668-682.

⁷ Global Initiative for Chronic Obstructive Lung Disease. *Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease*. 2021 Report



Potentially Increasing Albumin Opportunity in Critical Care

Supporting Regular Albutein^{®1} Use as a Disease Modifying Treatment

Hepatology facts

- **25%** of global population with **NAFLD²**, the most common cause of chronic liver disease³
- **>14 million** cirrhosis cases **2nd** leading cause of years lost of working life⁴
- **Liver transplant** is the **only procedure available today** to **avoid further complications and death**
- **+15%** global market growth potential stemming from regular albumin use (>€400M)



Grifols Hepatology Program

Albumin medicine role in hepatology is explained by albumin blood levels (albuminemia), supporting its regular use as a disease modifying treatment



transferring this concept into

critical care area
▲ opportunity

48.9M cases of sepsis leading to **20%** of all global deaths⁵

No conclusive guidance on the choice of **fluid and resuscitation protocols** exists as of today⁶

Albumin 1-time use to recover hypovolemia evolving to **albuminemia-base treatment** (Albios Balance/Ariss)

HES⁷ threat as a result of EMA's recent decision to suspend marketing authorization in EU

¹ Albutein[®] includes all Grifols albumin brands

² Non-alcoholic fatty liver disease

³ 2022 NAFLD Endocrinology-AASLD guidelines

⁴ 2021 EASL-Lancet Liver Commission on Liver Disease

⁵ WHO Sepsis Fact Sheets

⁶ 2021 Surviving sepsis campaign

⁷ Hydroxyethyl-starch (HES)

Poised for Performance in an Essential and Growing Market

Key Takeaways

Global plasma-derived proteins market is an **attractive market** that continues to **grow**

IG, Alpha-1 and albumin **defy the normal life-cycle of a pharmaceutical product** and **keep growing**

Strong key brands: Gamunex[®], Xembify[®], Prolastin[®], Albutein[®] and HyperRAB[®]

Building on Biopharma portfolio by adding **new proteins** with a specialized focus on **therapeutic areas**

Expansion of **PI** and **SID** markets expected to **outpace potential erosion** from new technologies

Grifols' Diagnostic offers an **unparalleled opportunity** to continue **increasing diagnosis rates** and **support Biopharma growth**

GRIFOLS 2022 Investor & Analyst Day

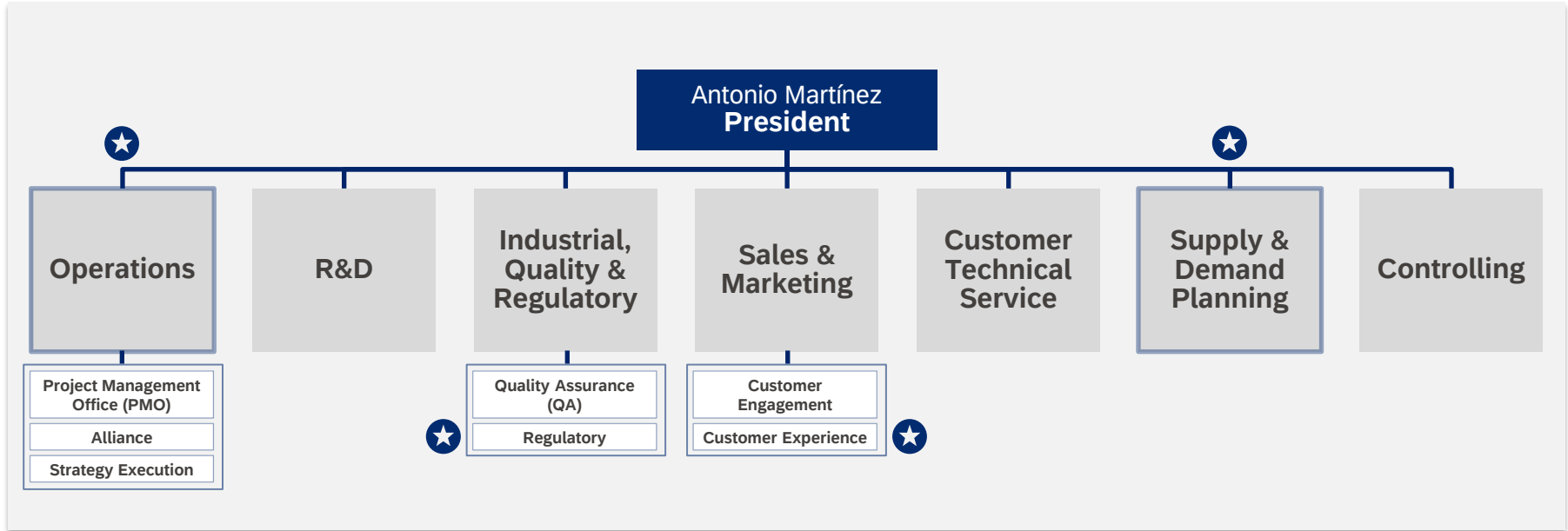
DIAGNOSTIC

Evolving Business Model to Strengthen Competitiveness

Antonio Martínez, President Diagnostic

A New Leadership to Accelerate Diagnostic

Streamlining the Business Unit to Increase Effectiveness and Drive Efficiencies



Focus and deep knowledge within the Diagnostic Business Unit

★ Changes implemented in the Business Unit

Diagnostic Mission

Improving care for donors and patients by providing laboratorians with innovative diagnostics tools

Growing the Business Based On Three Strategic Pillars

1



**Consolidate and
strengthen current
business**

2



**Support
Biopharma**

3



**Regulatory
innovation &
digital
transformation**

Combining Capabilities to Accelerate Growth

Broad Portfolio of Platforms, Know-How and Global Presence

Platforms

CLIA¹ Labs
in U.S. & Europe



R&D capabilities & manufacturing facilities of **In Vitro Diagnostic (IVD) devices**



CDMO² capabilities
for therapeutic proteins



Regulatory Knowledge

Extensive regulatory knowledge in **IVD and Pharma fields**



Over The Counter (OTC)
experience



Global Sales & Customer Technical Support

Sales & technical service in **key countries**



Proprietary/Partnership Technology

TMA³

Procleix Panther

PoC⁴

PROmonitor
quick

NGS⁵

SEQPRO lioo

PCR⁶

IDCOREXT

¹ Clinical Laboratory Improvement Amendments (CLIA)

² Contract development and manufacturing company (CDMO)

³ Transcription Mediated Amplification (TMA)

⁴ Point of Care (PoC)

⁵ Next Generation Sequencing (NGS)

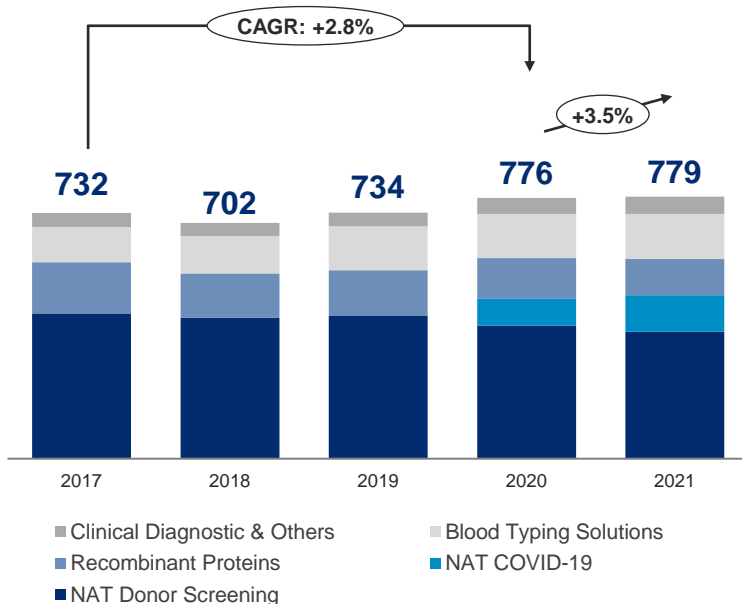
⁶ Polymerase Chain Reaction (PCR)



Diagnostic Division Reported Solid Growth in 2021

Driven by COVID-19 Innovation and Strong Underlying Business

Revenues
(EUR in millions)



Core business of **NAT** achieved **sustained growth** and continued to **consolidate** in the main markets (U.S. and China)

NAT testing addressed the emergency of new pathogens (Zika, COVID-19) and represents an **opportunity** for **new segments**

Constant growth in **Blood Typing Solutions (BTS)**

Note: growths at constant currency (cc), which excludes exchange rate fluctuations vs. PY

Increasing Presence in Key Markets

Strategic Partnerships and Alliances to Drive Further Growth



Strategic long-term partner for Diagnostic:

- Consolidation of current business
- Innovation in partnership with a leading testing player
- Growth: developing new assays for global expansion

● Key collaboration agreements



Strategic alliance:

- Exclusive distributor
- NAT: first order received and en route to China



Immunoematology Market Delivering Strong Growth

Expanding Grifols' Blood Collection Capabilities

Haema. qualified as a red blood cell **supplier**



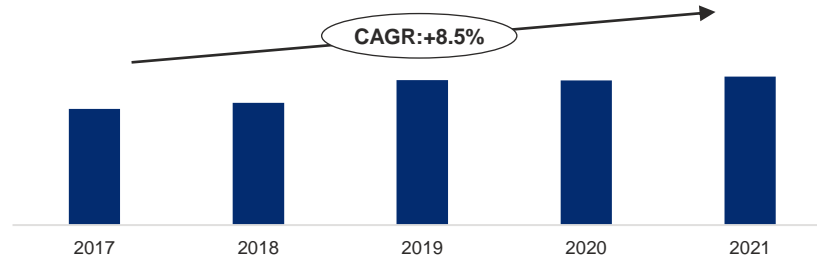
New red blood cells manufacturing facility in San Diego



BTS constant growth led by DG Gel[®] System sales and fueled by Erytra Eflexis[®]

Worldwide market penetration

>7,000 instruments
50M gel cards
achieved in 2021

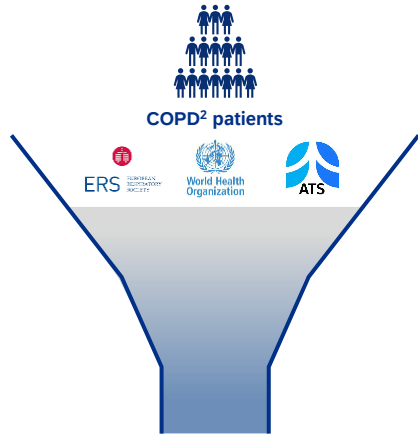


Note: CAGR at constant currency (cc), which excludes exchange rate fluctuations vs. PY



Supporting Biopharma Through High-ROI¹ Programs

Successful Alpha-1 Testing Strategy



Grifols' testing program continues to accelerate diagnostic globally



AlphaID™ Validated, Convenient and Efficient Diagnostic Solution

- Cost-effective
- FDA approved
- Scientific Societies Support



>950,000
tests performed



>205,000
deficient patients found



>16,000
severe patients diagnosed



ROI
231%

U.S. market
(2013 to 2024)

(figures since 2006)

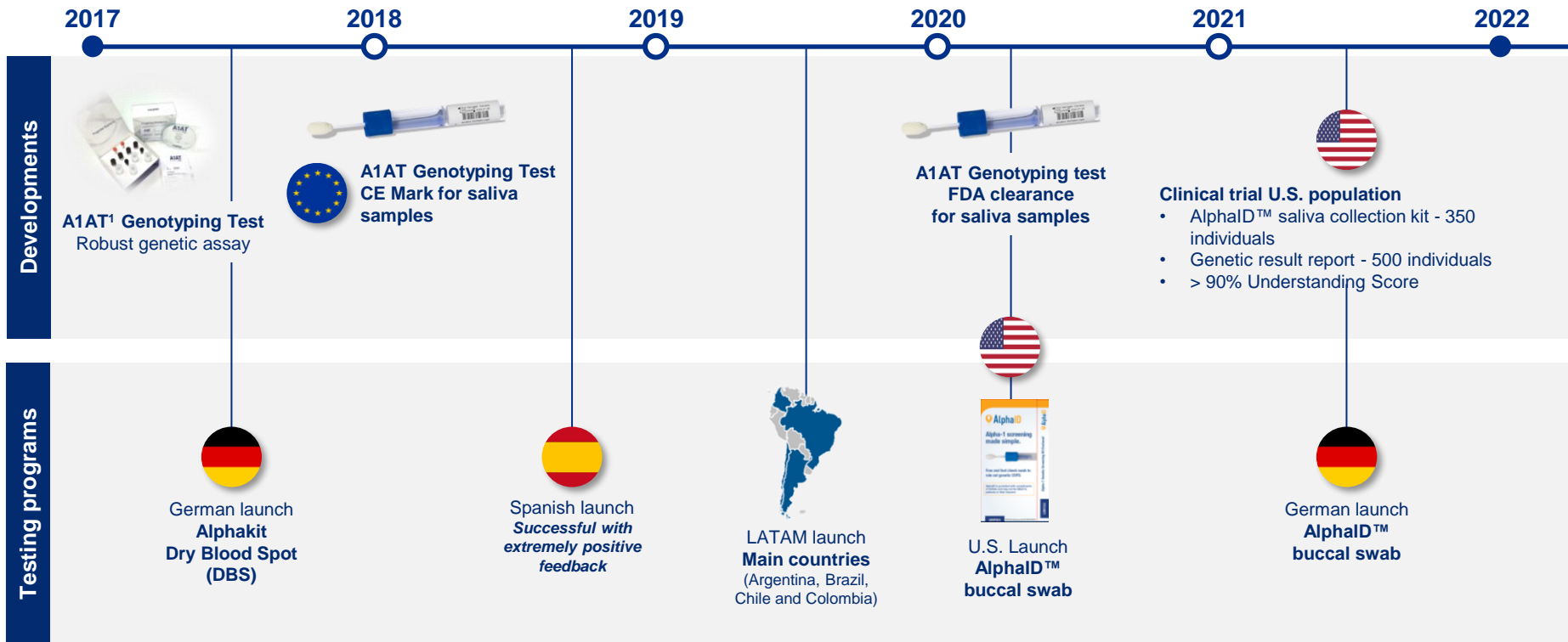


Life-saving therapy for those patients who need it

¹ Return On Investment (ROI)

² Chronic Obstructive Pulmonary Disease (COPD)

Our Journey to an Innovative Program...



¹ Alpha-1-Antitrypsin (A1AT)

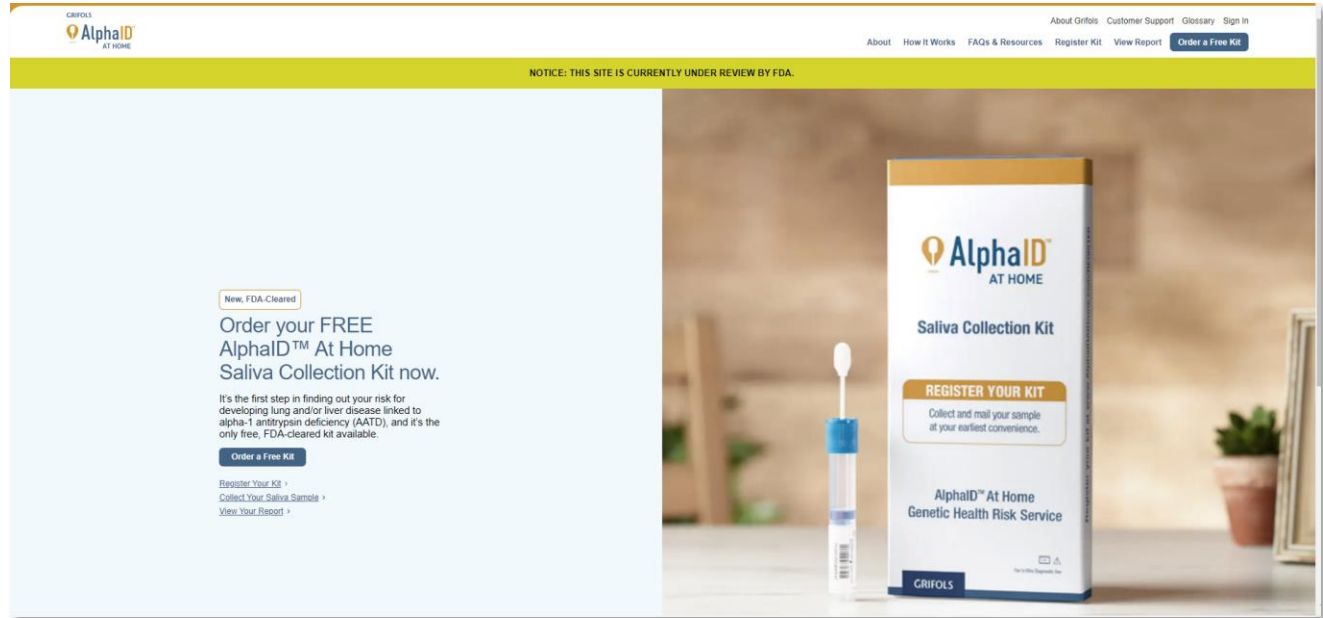
... To Achieve a New Milestone

Over The Counter 510(k) Filing Submitted to FDA: AlphaID™ at Home

May 2022

FDA SUBMISSION

The program is ready to launch once cleared



Over The Counter innovative solution to expand the U.S. screening program

Expanding the Model to Support Biopharma Growth

While Embracing Future Initiatives Including Biotest Projects

Basis for innovative testing strategies



Alpha-1 patients



PI¹/SID² patients



hATd³/ATIII⁴ patients



 Biotest and others)

Beyond



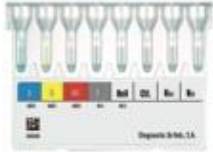
Pharma programs

¹ Primary Immunodeficiency (PI)
² Secondary Immunodeficiency (SID)
³ Inherited AT deficiency (hATd)
⁴ Antithrombin III (ATIII)



Grifols, Already Compliance With New In Vitro Diagnostics Medical Devices European Regulation (IVDR)

First Certifications for the New IVDR Received in December 2021



Grifols **on track** with the initial IVDR timing

Additional transition period (until May 2024) not needed



Promonitor Quick IFX

one of the **first near-patient testing** devices approved under the IVDR

Grifols will ensure on-time delivery of IVDR certification for all relevant products

Digital Transformation Promotes Higher Performance

Advanced Software Solutions and a New Customer Portal

1

Key strategic solutions to streamline customer operations

Bloodstream SOFTWARE

New Bloodstream software as a single point management system for the NAT testing laboratory

Blood Typing **Manager**

New middleware solution connecting blood typing data across laboratory network system to improve patient care, enhance operational efficiency and minimize risks

2

Digital platform for technical documentation of our products:

Going Green 



- All information, one site
- Quick and easy access
- Granted up-to-date documentation
- Digital safety environment

Evolving Business Model to Strengthen Competitiveness

Key Takeaways

Strengthened leadership to increase **effectiveness** and drive **efficiencies**

Broad portfolio of platforms, assets and global presence to **outperform competition** and **grow value**

Secured U.S. **key large customer** while poised to increase penetration to **fast-growing Chinese market** through **strategic alliance with SRAAS**

Unique diagnostic capabilities to expand **Grifols' Biopharma core markets** and **beyond**

Grifols Alpha-1 **OTC breakthrough testing** to achieve FDA regulatory **remarkable milestone**

Enhanced field **digitalization** to support **further growth**

A grayscale photograph of an elderly couple embracing in a field with mountains in the background. The woman is on the left, wearing a denim jacket, and the man is on the right, wearing a light-colored shirt. They are both smiling and looking towards the right. The background shows rolling hills and mountains under a clear sky.

GRIFOLS 2022 Investor & Analyst Day

June 30, 2022

GRIFOLS 2022 Investor & Analyst Day

INNOVATION

Accelerating Innovation: Gaining Focus and Speed in Our Pipeline

Albert Grifols Coma-Cros, Chief Innovation Officer
César Cerezo, SVP Drug Development
Carter Keller, SVP GigaGen

Accelerating Innovation Through 3 Key Objectives

1 Further evolving our
innovation organization

2 Gaining focus and
speed in our pipeline
(from past to present)

3 Building new
innovation models
(paving the future)

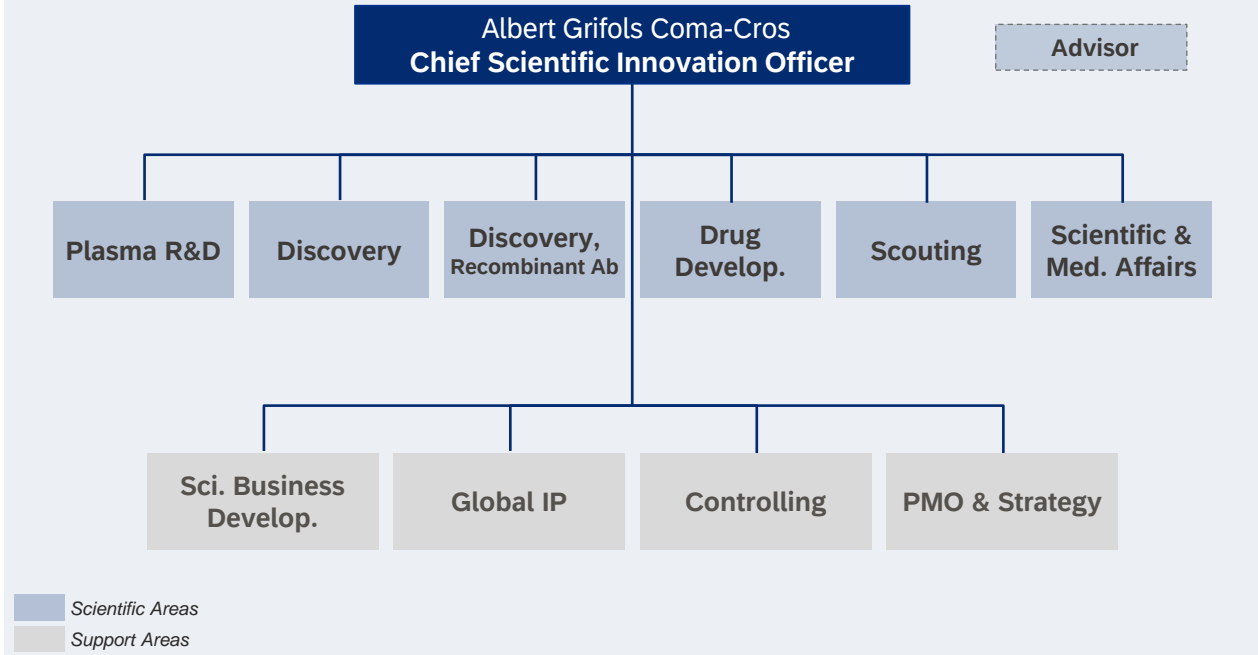
Focus on Scientific Areas While Elevating Controlling and PMO¹

1 Further evolving our innovation organization

2 Gaining focus and speed in our pipeline
(from past to present)

3 Building new innovation models
(paving the future)

Greater discipline in **accountability & execution...**



¹ Project Management Office

Rationalizing Portfolio & Establishing Result-Oriented Processes



1 Further evolving our innovation organization

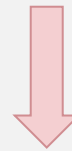
2 Gaining focus and speed in our pipeline
(from past to present)

3 Building new innovation models
(paving the future)

Optimizing and re-prioritizing our R&D portfolio...



2  **3** 
(internal) (Biotest)
Key projects launched



8 *projects discontinued*



Non-strategic divestments
(e.g., VCN)



... while adopting a **result-oriented governance**



Clear direction with a **2030 Ambition target**



Stronger business-weight (i.e., commercial, financial return) into project approval and prioritization processes










Increased weight of **milestones achievement** into **bonus scheme**

New Approaches: Developing a 360-Degree Innovation Ecosystem



Balanced Risk-Value Pipeline

	Discovery	Pre-Clinical	Phase 1	Phase 2	Phase 3	Phase 4 / Regulatory	LCM
 Immunology	++	reclG Spike in PdIG with enriched recombinant libraries (PI)			IVIg-PEG	Xembify® Europe	Xembify® Prefilled syringes
					IVIgG Next Gen PI	Xembify® Bi-weekly dose	
					Xembify® in CLL		
 Hepatology/ Intensive Care	++				PRECIOSA D.Cirrhosis (Alb.20%)		FlexBag® US, EUR
					APACHE ACLF (Alb 5%)		
 Pulmonology		Alpha-1 AT Non-cystic fibrosis bronchiectasis		Alpha-1 AT 15% (SC) AAT deficiency		SPARTA - Prolastin-C® EUR	Prolastin® EU 4-5gr vials
 Hematology	+			ATIII in Sepsis***	Fibrinogen Cong. Deficiency & severe hypofibrinogen	Fostamatinib** ITP – Refractory patients	
					Fibrinogen Acquired Deficiency		
					IVIgG Next Gen - ITP		
 Others	++	GIGA 564 Anti-CTLA-4 mAb Oncology	GIGA 2328 Anti-CTLA-4 mAb Oncology	AKST4290 nAMD & DR	AKST1210 ESRD-CI	Fibrin Sealant Biosurgery Pediatric Use	
 Infectious Diseases	+++	GIGA 2339 HBV Recombinant hyperimmune Ig				Trimodulin sCAP	
						Cytotec® Pregnancy (CMV infection)	
 Neurology	+++	AKST 1220 CADASIL		GRF6019 AD GRF6021 PD with Dementia	ABvac40 AD AKST4290 PD	AMBAR-Next	

Plasma projects
Non-plasma projects
Biotest projects
Detailed next

* Project of AlbaJuna (Grifols' invested company); ** Licensed rights from Rigel Pharmaceuticals in EU and other countries; *** Partnership with Endpoint Health

Notable Progresses in 4 Core Projects

1

**AMBAR-Next
in Alzheimer's**

2

**Xembify[®]
in CLL**

3

**ATIII
in sepsis**

4

**GigaGen
& HBV¹**



Disease background



R&D


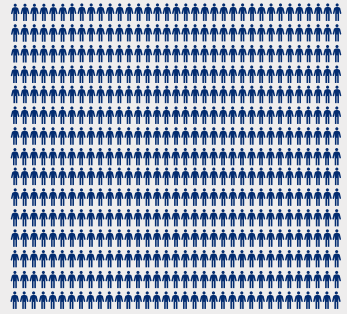
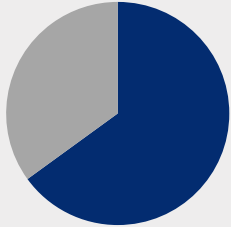




¹ Hepatitis B Virus (HBV)



Alzheimer's Disease Therapy: An Urgent Unmet Need

5th Leading Cause of Death Worldwide

- i** **Progressive disease** in which dementia symptoms gradually **worsen over several years**
No cure to date but research continues, and treatments are available to alleviate symptoms

<p>Worldwide Prevalence</p> <p>>35 million patients </p> 	<p>% of Dementia Cases</p> <p>accounts for 60-70% dementia cases</p> 	<p>By Age</p> <p>Majority are >65y/o</p> <hr/> <p>but...</p> <p>200,000 </p> <p> <65 y/o have younger-onset Alzheimer's disease</p> 	<p>Mortality</p> <p>5th leading cause of mortality</p> 
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Sources: Alzheimer's Disease International, Worlds Alzheimer's Report 2015, <https://www.alz.org/Alzheimers-dementia/what-is-dementia>

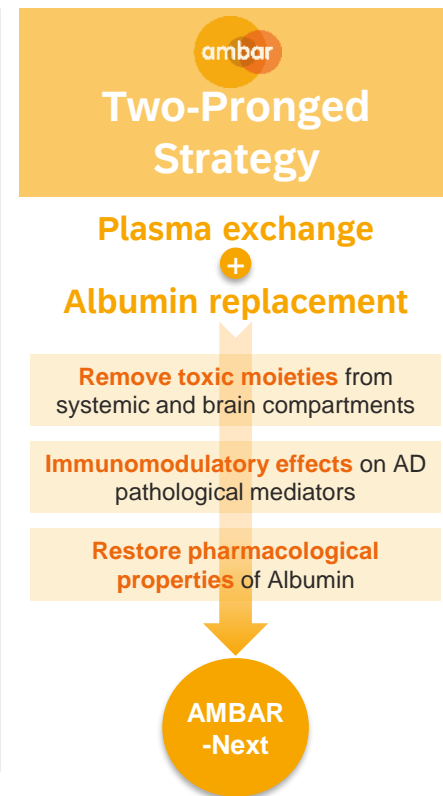


R&D Efforts Encompass the Entire Development Path

Innovation Strategy in Neurodegenerative Diseases (ND)

Discovery
Plasma Proteome Chronokines
Understanding of plasma at the molecular level in healthy and disease states
Discovery of chronokines proteins with biological impact that changes with age
Pipeline expansion of therapeutic plasma fractions, small molecules, antibodies
Explore therapeutic benefit of plasma proteins in a wide range of CNS ¹ disorders

Clinical Development Programs	
Plasma Fractions & Small Molecules	Active Immunotherapy
GRF-6019	Aβvac40 vaccine against Aβ40 Placebo-controlled AB1601 trial in 120 very early AD and MCI⁴ patients in phase II
GRF-6021	
Proprietary plasma fraction inducing neurogenesis 2 clinical programs in AD² and PD³ patients with dementia in phase II	

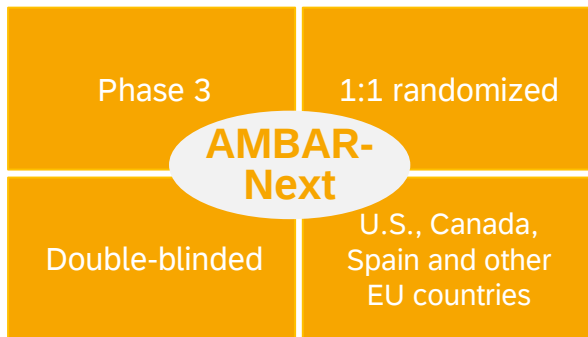


¹ Central Nervous System (CNS); ² Alzheimer's Disease (AD); ³ Parkinson Disease (PD); ⁴ Mild Cognitive Impairment (MCI)



AMBAR-Next: Slowing Clinical Decline of Mild-to-Moderate AD

Confirmatory Albumin and Plasma Exchange to Treat Alzheimer's



~600 subjects with mild-to-moderate AD
18-month follow-up

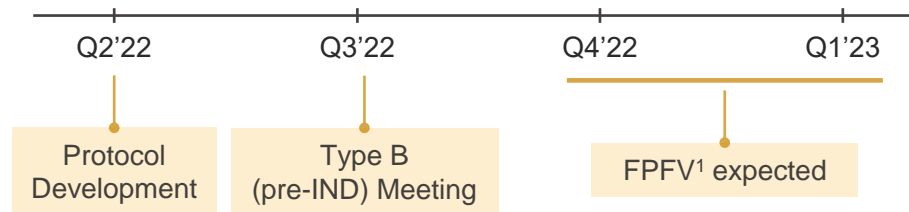
Plasma exchange
treatment group

Sham-control
group

Centers and countries



Status (as of June '22)



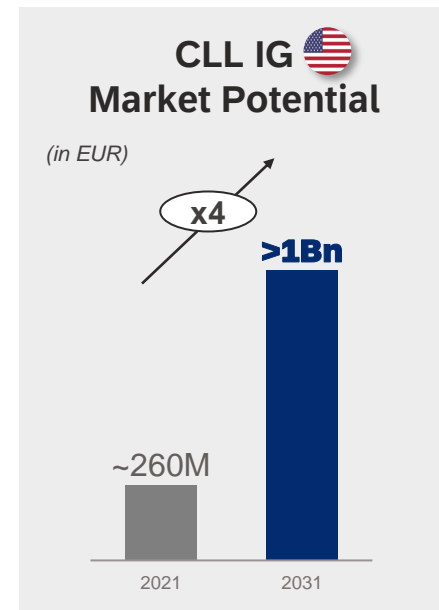
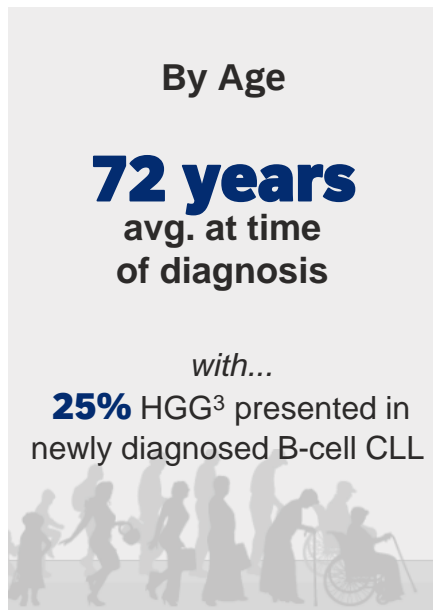
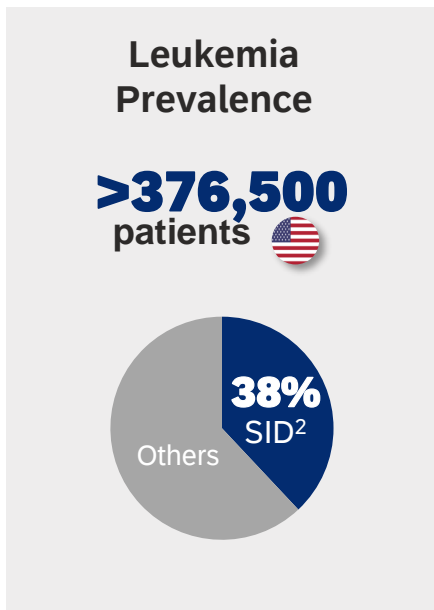
¹ First Patient First Visit (FPFV)



Targeting the Fastest-Growing Patient Segment for IG Therapy

Chronic Lymphocytic Leukemia (CLL)

- i** **Accumulation of monoclonal, mature CD5+B cells** in the peripheral blood, bone marrow, and secondary organs¹
No definitive cause has been established; targeted therapy regimens proven as efficacious treatments

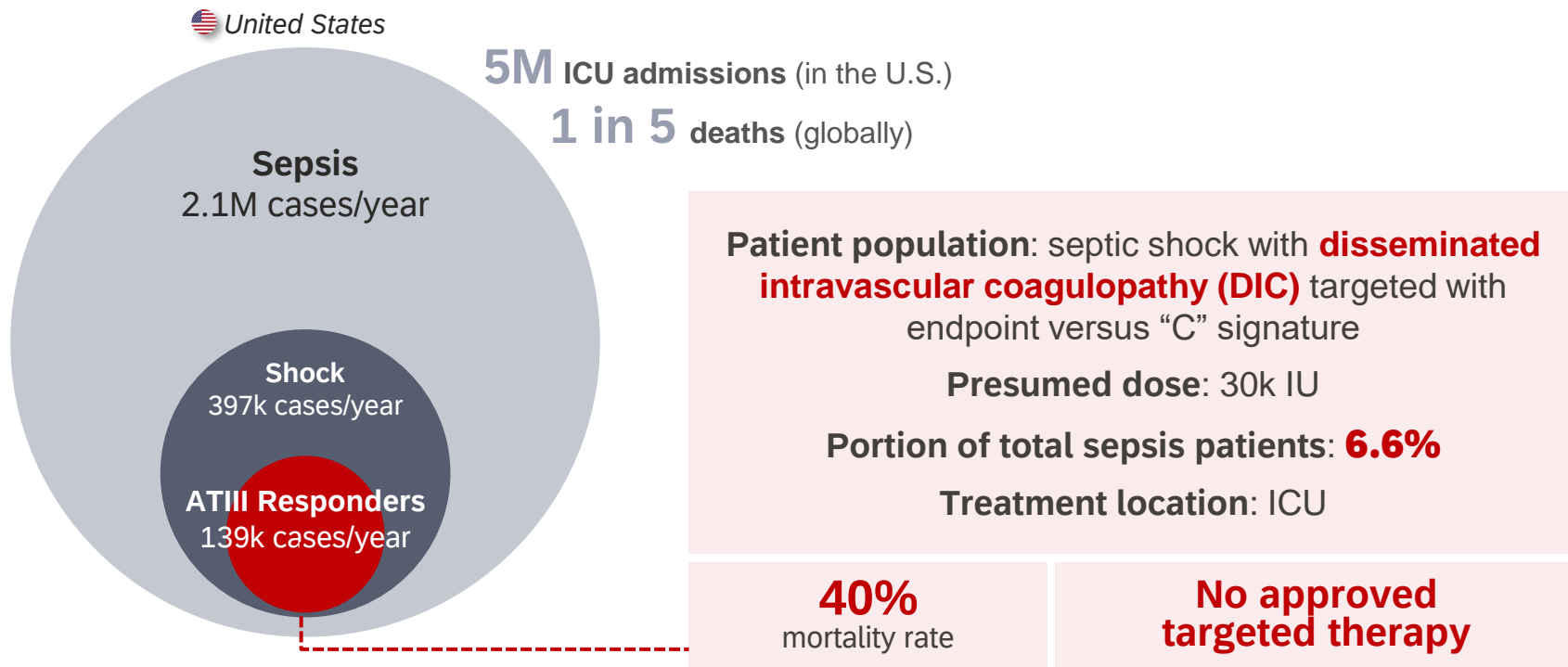


¹ Burger JA. ² Secondary Immunodeficiencies (SID); ³ Hypogammaglobulinemia (HGG); ⁴ Wintrobe MM, Hasenbush LL.; ⁵ Hansen MM.; ⁶ Morra E, Nosari A, Montillo M.; ⁷ Hamblin AD, Hamblin TJ. ⁸ Morrison VA.; ⁹ Dhalla F, Lucas M, Schuh A, Bhole M, Jain R, Patel SY, et al.



ATIII in Sepsis: Very High Burden of Healthcare Costs

Outlook for U.S. Potential if Treatment Proven





Disruptive Diagnostic to Identify Thrombate III Responders

Global Collaboration Agreement and Solid Partnership With Endpoint Health



Draw blood and
send to in-
hospital lab



RT-qPCR assay on
rapid IVD system



14 Gene mRNA
expression data

Biologically
validated subtypes



Avoid immune
suppressants



Use anti-inflammatories
Use immune stimulants



Use anticoagulant
targeted



Develop and
commercialize ATIII
for severe sepsis

Gene expression array

(Biocartis device)

- IVD test using small blood sample
- 15 marker array developed and validated in over 900 sepsis patients
- Gene expression array evaluating innate and adaptive immune response, complement, adaptive suppression and coagulation

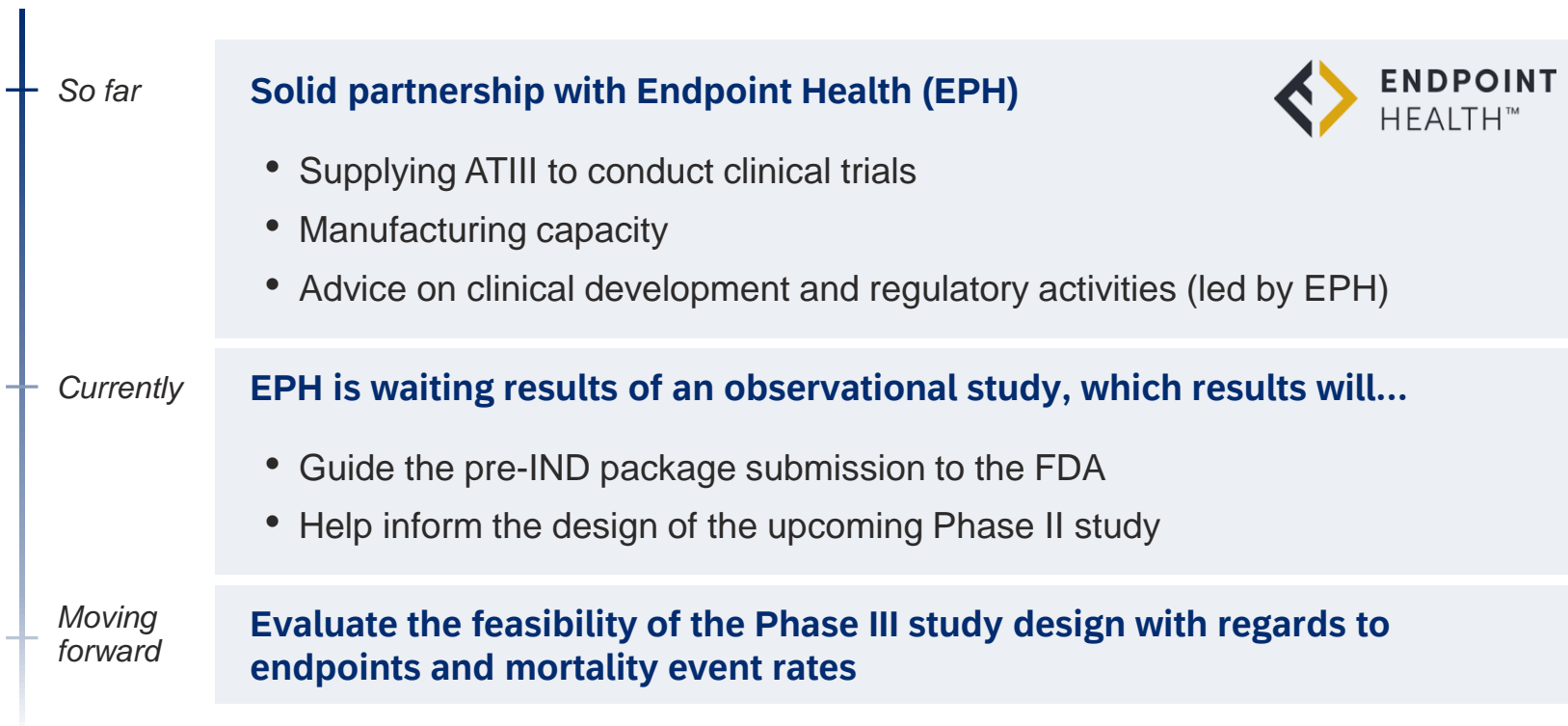
90-minute rapid test + algorithm

- Developed by Endpoint Health
- Distributed/sold by Endpoint Health + IVD partner
- Novel assay, system and algorithms / IP protected
- FDA authorized system and sample collection device



Building the Future to Treat Severe Sepsis

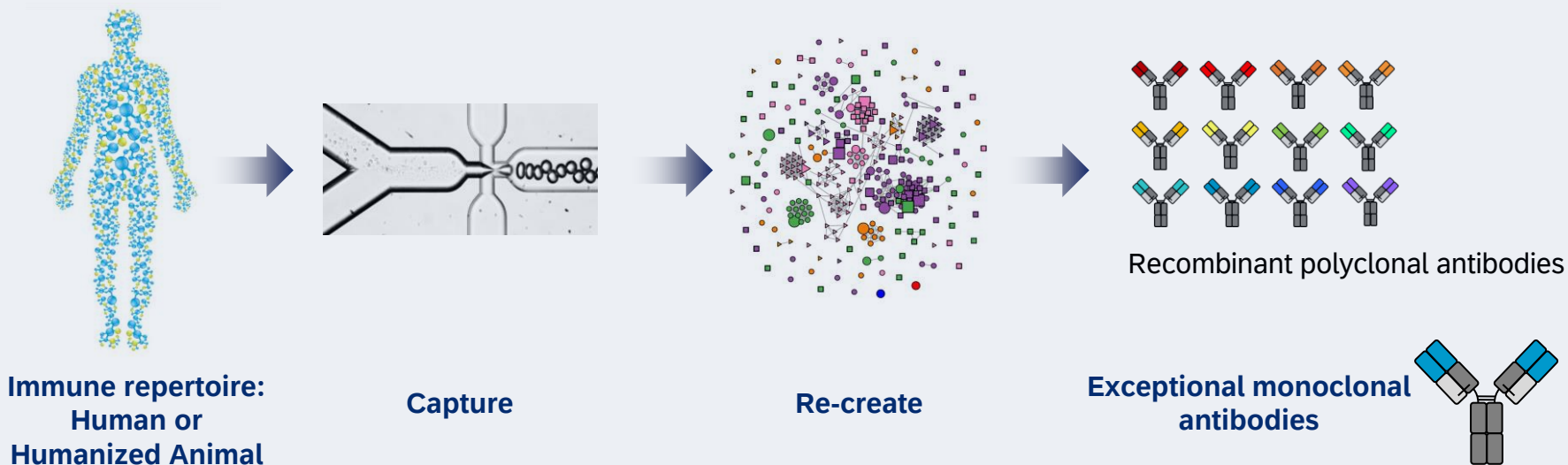
Next Steps





GigaGen Captures & Recreates Complex Antibody Repertoires

World-Leading Immune Genomics Technology for Drug Discovery




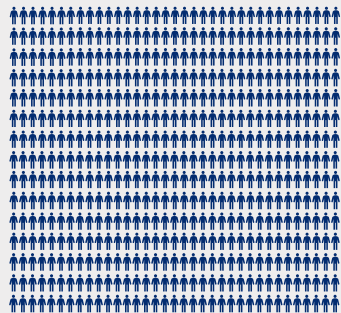


Chronic HBV¹: Widespread Disease With Significant Morbidity

Despite Currently Available Therapies and Vaccines

USD 3.8Bn² worldwide market

296M people
living with
chronic HBV 

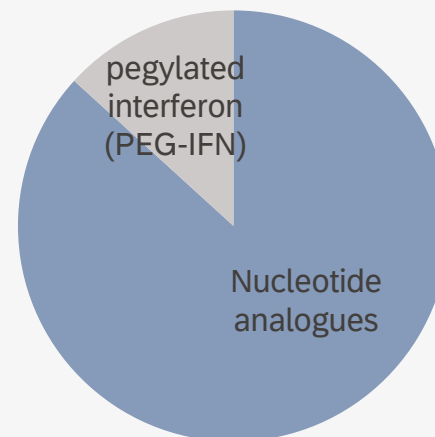


1.5M
newly infected
patients per year³

20% of patients
go on to develop **cirrhosis &
hepatocellular carcinoma**

~820,000
deaths per year⁴

HBV sales in the U.S. (2019)
~USD 615M



¹ Hepatitis B Virus (HBV)

² Global Data report: Hepatitis B Virus Infection – Global Drug Forecast and Market Analysis to 2029

³ WHO (<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>)

⁴ Hepatitis B Foundation (hepb.org)



Anti-HBV Recombinant Polyclonal



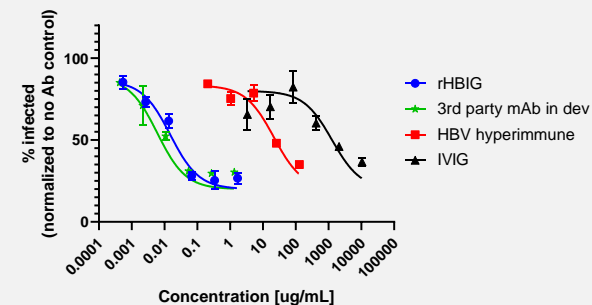
rHBIG

- **Recombinant polyclonal antibody therapy** (rHBIG) targeting HBV surface antigens
- Composed of **>1,000 antibodies**
- Derived from antibody sequences from human donors following HBV vaccine booster
- Polyclonal therapy ensures retained targeting of the many genotypes present and the large number of escape mutant variants that arise

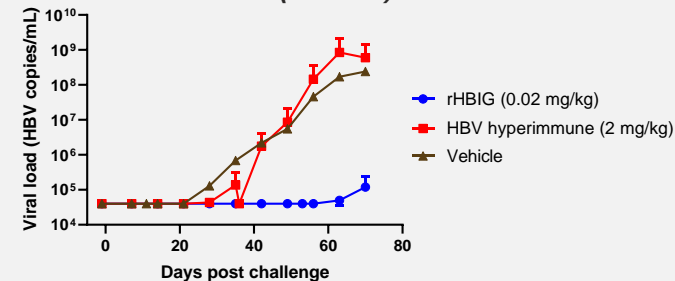
Potency

Neutralizing potency of > 1,000x that of plasma-derived HBV hyperimmune therapy
In vitro and *in vivo* models demonstrate efficacy potential GMP manufacturing initiation planned for Q4 2022

Live Virus Neutralization (In Vitro)



Humanized Liver HBV Challenge Mouse Model (In Vivo)





GigaGen's Antibody Platform Potential

rHBIG¹: the First Chapter

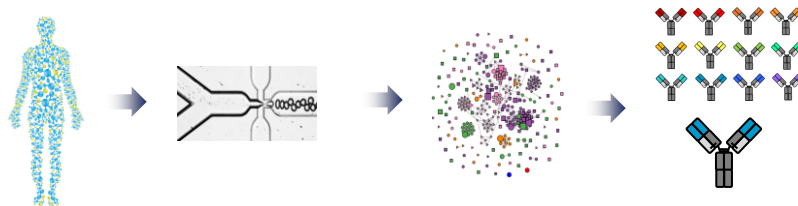


Recombinant Polyclonal Antibody Therapies

- Completely **new class of therapeutics** uniquely enabled by the GigaGen platform
- Capability that Grifols alone possesses
- **Additional** recombinant polyclonal therapeutics for **infectious disease, immunology, transplant** and **other areas will be enabled with rHBIG's success**

Monoclonal Antibodies

- **Some indications are best addressed** with monoclonal antibody treatments
- GigaGen's platform **rapidly identifies** rare, highly potent antibodies with unique activities from natural immune systems



¹ Recombinant Hepatitis B Virus Immunoglobulin (rHBVIG)

Accelerating Innovation: Gaining Focus & Speed in Our Pipeline

Key Takeaways

Gaining focus and speed in our pipeline by **rationalizing our portfolio** and adopting a more **result-oriented governance**

Building **new innovation models** in **digital and data, China and precision medicine**

Seeking **U.S. indication for Xembify® in CLL**, the fastest growing patient segment for IG therapy

Leading the **mild-to-moderate Alzheimer's** space with **AMBAR-Next, a confirmatory trial** for our AMBAR program

Partnering with **Endpoint Health** to treat **severe sepsis with ATIII**, an **innovative precision medicine approach**

GigaGen's novel technology to create **recombinant polyclonal antibody drugs** for a wide range of **infectious diseases**

GRIFOLS 2022 Investor & Analyst Day

GRIFOLS AND BIOTEST

A Transformational Transaction to Maximize Both Opportunities

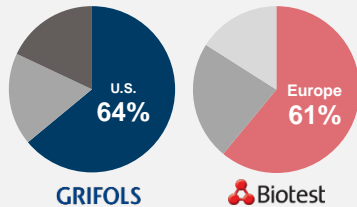
Joana Sàbat, SVP Global Marketing & Market Access

Jörg Schüttrumpf, Biotest Chief Scientific Officer

Maximizing Opportunities for Both Companies...

Grifols and Biotest: A Transformational Transaction

Geographic fit



Scalability



Broader commercial reach



U.S. market knowledge and penetration



Plasma collection and manufacturing capacity










Pipeline acceleration of key novel products



... Accelerating Grifols' Innovation Pipeline

Bringing in **Precision Therapies**, Fibrinogen and Trimodulin, and Cytotect®

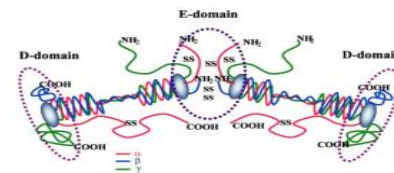
	Discovery	Pre-Clinical	Phase 1	Phase 2	Phase 3	Phase 4 / Regulatory	LCM
 Immunology	++	reclG Spike in PdIG with enriched recombinant libraries (PI)			IVIG-PEG	Xembify® Europe	Xembify® Prefilled syringes
					IVIgG Next Gen PI	Xembify® Bi-weekly dose	
					Xembify® in CLL		
 Hepatology/ Intensive Care	++				PRECIOSA D.Cirrhosis (Alb.20%)		FlexBag® US, EUR
					APACHE ACLF (Alb 5%)		
 Pulmonology		Alpha-1 AT Non-cystic fibrosis bronchiectasis		Alpha-1 AT 15% (SC) AAT deficiency		SPARTA - Prolastin-C® EUR	Prolastin® EU 4-5gr vials
 Hematology	+			ATIII in Sepsis***	Fibrinogen Cong. Deficiency & severe hypofibrinogen	Fostamatinib** ITP – Refractory patients	
					Fibrinogen Acquired Deficiency		
					IVIgG Next Gen - ITP		
 Others	++	GIGA 564 Anti-CTLA-4 mAb Oncology	GIGA 2328 Anti-CTLA-4 mAb Oncology	AKST4290 nAMD & DR	AKST1210 ESRD-CI	Fibrin Sealant Biosurgery Pediatric Use	
 Infectious Diseases	+++	GIGA 2339 HBV Recombinant hyperimmune Ig				Trimodulin sCAP	
						Cytotect® Pregnancy (CMV infection)	
 Neurology	+++	AKST 1220 CADASIL		GRF6019 AD	ABvac40 AD	AMBAR-Next	
				GRF6021 PD with Dementia	AKST4290 PD		

* Project of AlbaJuna (Grifols' invested company); ** Licensed rights from Rigel Pharmaceuticals in EU and other countries; *** Partnership with Endpoint Health

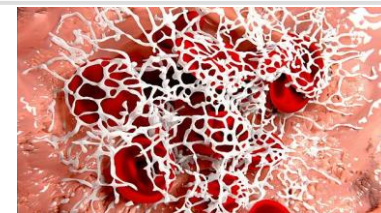
■ Plasma projects
 ■ Non-plasma projects
 ■ Biotest projects

Fibrinogen: An Unparalleled Opportunity to Boost Revenue per Liter and Expand Margins

- Fibrinogen is an **abundant, large, and complex** protein, which makes it ideally suited to be isolated from human plasma. It **accounts for 95% of all coagulation factors** in the blood



- Fibrinogen **promotes platelet aggregation**. It is **converted to fibrin** which forms the connecting glue in **blood clots**



- Fibrinogen concentrate** is a highly **pure preparation of human fibrinogen** that can be used to **safely replace the absence or deficit of fibrinogen** **safer**, much **faster** and with **greater efficiency** and **precision** than the current options of fresh frozen plasma or cryoprecipitates



Treating Acquired and Congenital Fibrinogen Deficiency

Playing an Essential Role in Blood Clotting and Hemostasis

Congenital deficiency

- Very rare, inherited bleeding disorder in which the body's **ability to form blood clots is impaired**
- Fibrinogen is used for treatment and prophylaxis of bleeding episodes in these patients

Deficiency
0-1 g/L

Acquired deficiency

- Body's own fibrinogen lost due to **major bleeding** during elective surgical procedures or unexpected trauma events
- Fibrinogen is the **first coagulation factor missing** in major blood loss
- Replacement of lost fibrinogen is **critical to restore effective hemostasis**

Normal levels
2 -4 g/L

Deficiency
<2 g/L

Massive bleeding

- Major surgeries
- Postpartum hemorrhage
- Trauma

Clotting Assessment: Critical to Monitor Deficiency

Monitoring Patient Coagulation Status Allows Administering **Precise Therapies**

Point-of-Care (PoC) diagnostic...



... bringing in positive **market implications**

Prediction of massive transfusion requirement

Creation of **goal-directed** and **individualized** coagulation algorithms that may **improve patient outcome**

Distinguish the most important coagulation deficiencies (including fibrinogen)

- **Goal-oriented treatment protocols** proposed for bleeding management in surgery and trauma patients
- **Rapidly developing field** of acute medicine



Grifols is uniquely positioned to leverage its deep Diagnostic expertise



TEG®



ROTEM®

Most widely-used devices...

Promising Results in Both Clinical Trials

Congenital FD¹

Phase I/III study: Largest clinical trial in congenital fibrinogen deficiency worldwide

Treatment of adults and children

Results confirm high expectations regarding efficacy and safety...

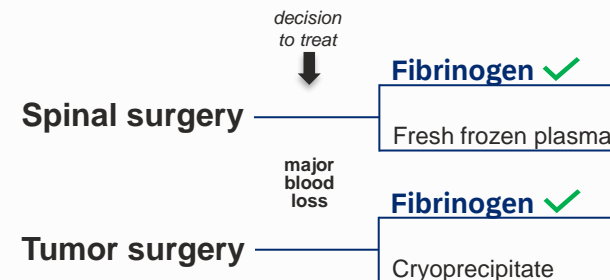
- Expected pharmaco-kinetics and -dynamics (Phase I), excellent efficacy and safety (Phase III)
- 175 bleeding events (BEs) treated in 36 patients of all age groups
- Overall hemostatic response assessments of 175 BEs demonstrated a treatment success in nearly all cases
- Study completed

Acquired FD¹



Phase III study in severe spinal surgery and pseudomyxoma peritonei (tumor) surgery

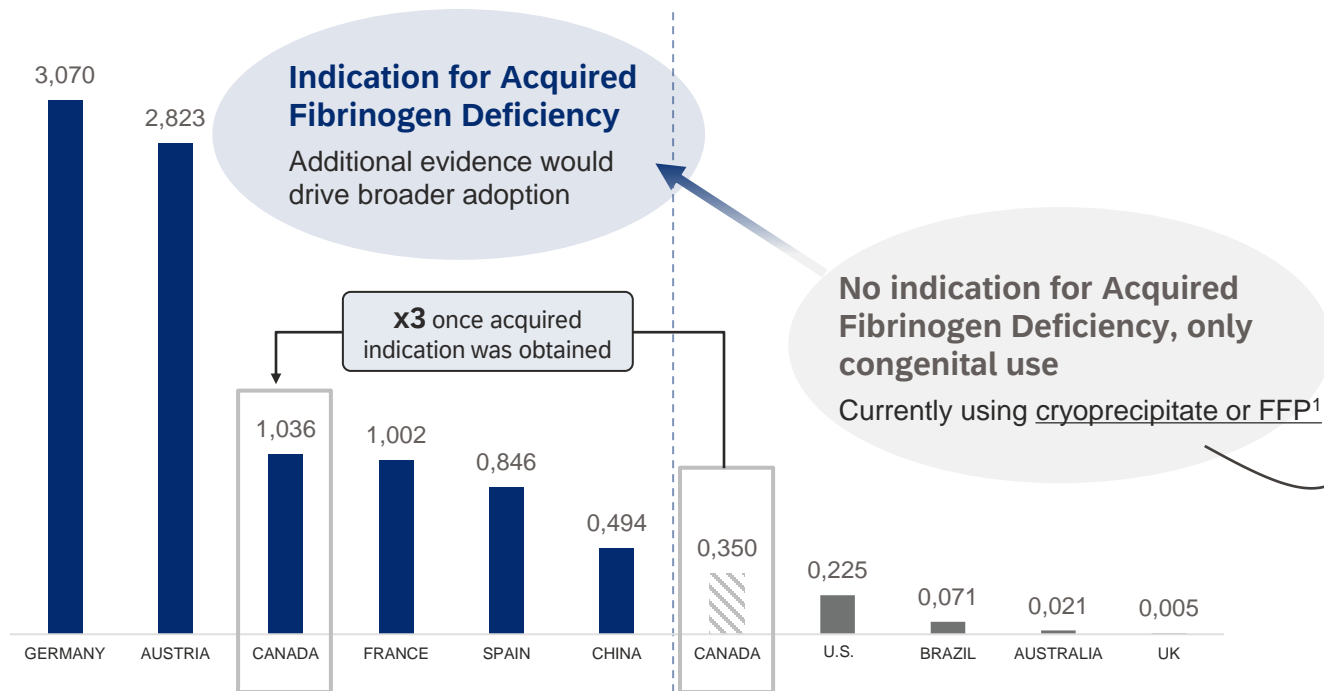
- Non-inferiority study compared to standard of care (fresh frozen plasma or cryoprecipitate)
- **Interim** analysis with **120 subjects** (June '22) **confirms planned** patient number
- **Recruitment ongoing – 150 of 200 patients recruited**
- Other interim analysis to define **final sample size expected** in **December '22**



¹ FD: Fibrinogen deficiency

Acquired Fibrinogen Deficiency Indication: Broader Adoption and Opportunity

Fibrinogen consumption per capita (g/1000 inhab.)



Source: MRB
¹ FFP: Fresh-frozen plasma

Seizing Fibrinogen's Large Market Opportunity

Current Trends Underscore Its Potential While Further Benefiting Patients



Improved Point-of-Care diagnostics

- Increasing knowledge, availability and reimbursement worldwide

NEW! Precision Therapy



Increased awareness

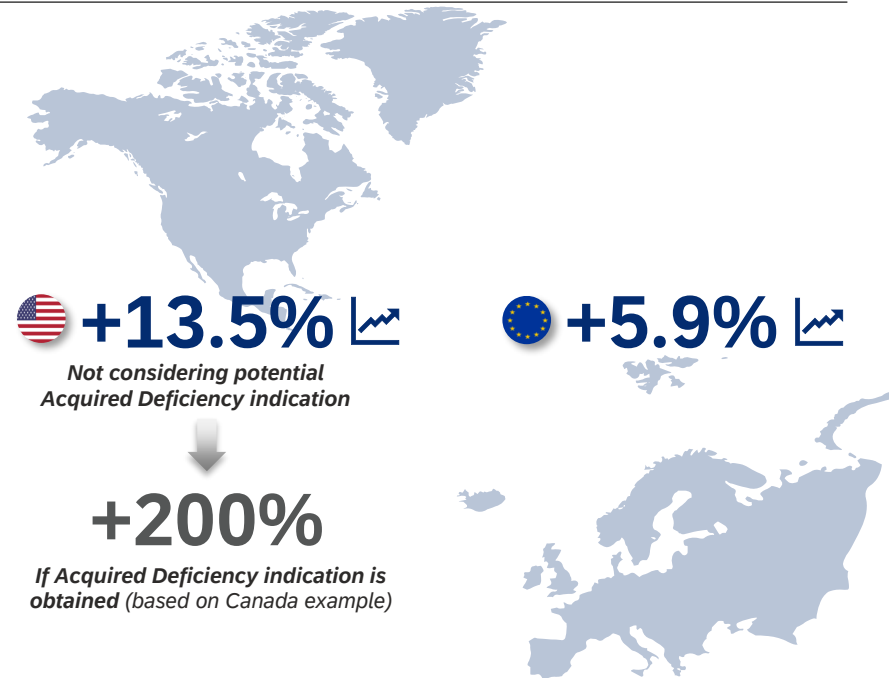
- European and Canadian guidelines
- Diagnostic companies and plasma-derived medicines companies increasing education on Precision Therapy



Change of market dynamics

- Shortage of cryoprecipitate during pandemic driving fibrinogen concentrate usage with improved customer experience in the U.S.

Expected CAGRs 19-27 (volume)



Source: MRB, November 2021

Trimodulin: A Potential Blockbuster

Unique Polyvalent IG Composition



Important functions

- **Recognizes pathogens**, also part of innate immune system
- IgM and IgA can be secreted and are present directly on the **pulmonary surface**
- **Strong anti-inflammatory effects** by acting through cellular receptors
- **Scavenge virulence factors**, such as lipopolysaccharides which lead to inflammation
- Binds and **modulates** activated coagulation factors, complement factors, and cytokines

	IVIG	Trimodulin
IgM	-	~23%
IgA	-	~21%
IgG	≥95%	~56%
Patient target	e.g., patients with immunodeficiency	Clinical development in severe COVID-19 and sCAP ¹

¹ Severe community acquired pneumonia: Severe CAP (sCAP) is usually defined as CAP that requires admission to the intensive care unit (ICU)

sCAP¹: A Leading Cause of Illness and Death Worldwide²

A High Unmet Medical Need

Pneumonia requiring supportive therapy
within a critical care environment

>350k patients³
suffer sCAP each year



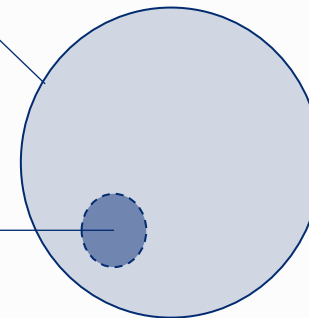
23-58%^{4,5}
mortality range

*no significant changes over the past decades despite the
availability of improved broad-spectrum antibiotics*

COVID-19 is a subtype of sCAP

Caused by all kinds of
pathogens (viruses,
bacteria, fungi)

Caused by
SARS-CoV2
virus



¹ Severe community acquired pneumonia: Severe CAP (sCAP) is usually defined as CAP that requires admission to the intensive care unit (ICU)

² Wunderink 2014, N Engl J Med 370:6.

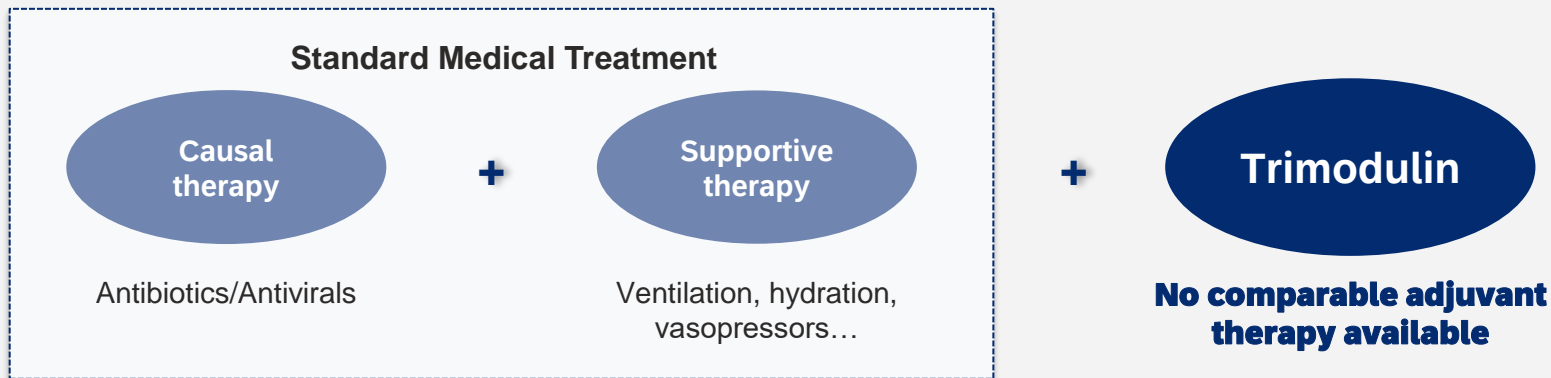
³ Chest Journal (CHEST) (chestnet.org)

⁴ Woodhead, 2006, Critical Care 10:S1, p3.

⁵ Sirvent et al. 2013, Med. Intensiva 37:308e 15.

Changing the sCAP¹ Treatment Paradigm

Trimodulin Improves Patient Response With Further Decrease in Mortality



- ✓ ▼ overshooting immune-mediated tissue damage
- ✓ ▼ risk for lung inflammation, severe sepsis, septic shock, respiratory and multi-organ failure
- ✓ Prevention of secondary infections

» ▼ **Mortality**

¹ Severe community acquired pneumonia: Severe CAP (sCAP) is usually defined as CAP that requires admission to the intensive care unit (ICU)

Extensive Development Program in Severe Pneumonia

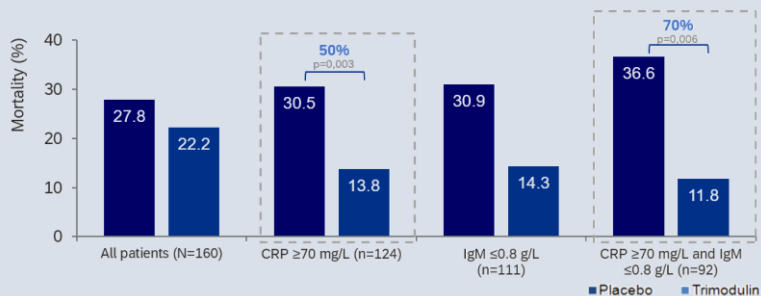
Patient Groups and Disease Stages for Optimal Therapy Identified in Phase II Studies

Severe Community Acquired Pneumonia (sCAP)

CIGMA Phase II Completed ✓

✓ Very positive feedback from FDA¹, EMA², PEI³ and clinical experts

50-70% relative reduction in mortality in target population

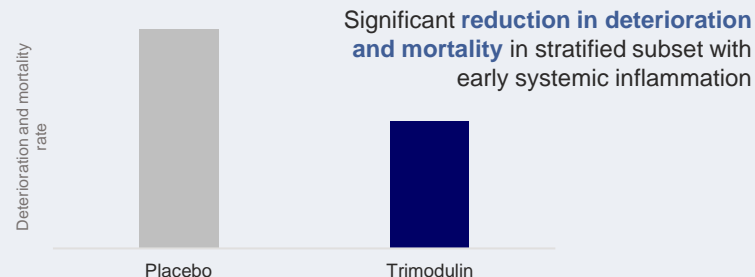


ESsCAPE Phase III Start 2022
Trimodulin Phase III

Severe COVID-19

ESsCOVID Phase II Completed ✓

- ✓ Positive feedback from PEI
- ✓ EUR 29M funding from German government
- ✓ Guidance from EMA on expedited pathway for registration



TRICVID Phase III Start 2022
Trimodulin Phase III

¹ U.S. Food Drug and Administration; ² European Medicines Agency; ³ Paul-Ehrlich-Institute;

Leveraging on Phase II Results to Start Phase III Trials in 2022




(Start 2022)



(Start 2022)

Randomized, placebo-controlled, double-blind, multi-center, phase III trials investigating the efficacy and safety of Trimodulin in adult hospitalized subjects

sCAP patients

 480-780 subjects

- Subjects on invasive mechanical ventilation (within <12h)
- Subjects with inflammation (CRP >70 mg/L)
- SARS-CoV-2 negative



COVID-19 patients

 334 subjects

- Subjects on low-flow oxygen, high-flow oxygen, NIV
- Subjects with early systemic inflammation



Grifols' Capacities Help Address the Opportunity

Potential Addressable Markets

ESCAPE
Trimodulin Phase III

sCAP

Potential treatment

Adjunctive treatment of patients with severe Community **Acquired Pneumonia (sCAP)** who require invasive mechanical ventilation and have **CRP¹ >70 mg/L**

OPPORTUNITY

sCAP market size
~350,000 patients 

initial target population
>80,000 patients/year

- Significant **upside** due to **higher price** depends on clinical trials' data

TRICAVID
Trimodulin Phase III

COVID-19

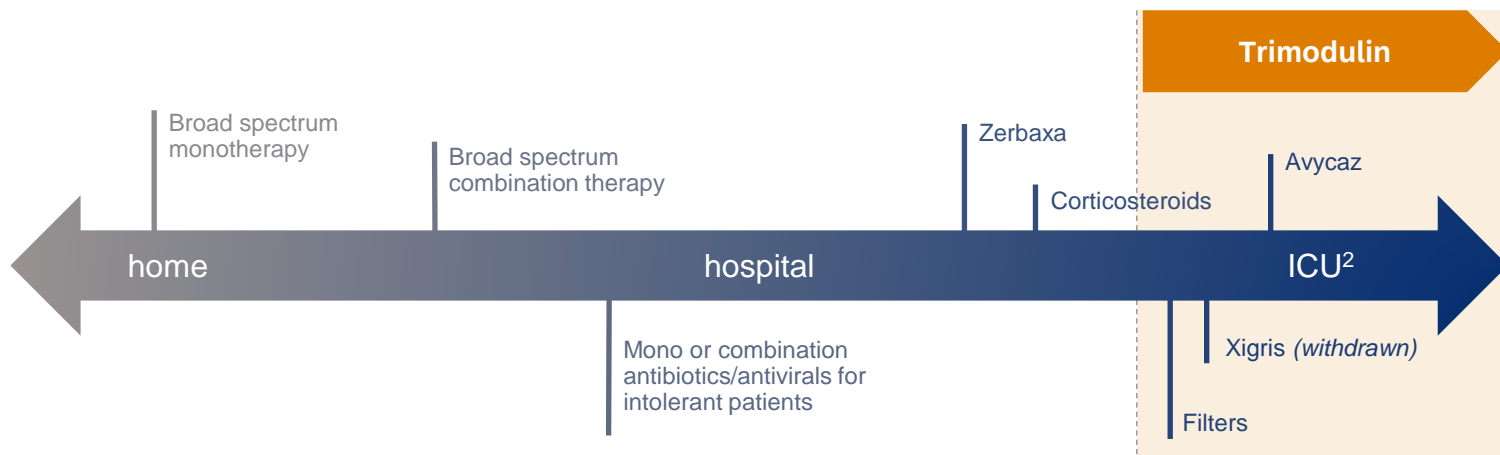
Add-on therapy to standard of care in adult patients with **severe COVID-19** and **CRP ≥50 mg/L**

- **Early approval** will be **beneficial for faster sCAP approval**
- Development risk covered by public funding
- Even with vaccination, **>20,000 patients/year** in **EU** are expected over the **next three years**

Source: Biostat market research
¹ C-reactive protein (CRP)

No Direct Competitors for Trimodulin in sCAP¹

Harnessing the Opportunity to Address a Critical Medical Need



No direct competitors: no IgM enriched immunoglobulins on the market or in clinical trials

High medical need: high mortality rate despite antibiotics or antivirals

Commercial advantageous **pricing opportunity**

¹ Severe community acquired pneumonia: Severe CAP (sCAP) is usually defined as CAP that requires admission to the intensive care unit (ICU)

² Intensive Care Unit (ICU)

CMV¹ Infection: A Disease With Large Unmet Medical Need

No Approved Treatment for This Disease

The most common congenital infection in developed countries

0.3-2.4% 
prevalence in newborns

*Infected women
may transmit the
virus to the fetus*



Higher rates ▲



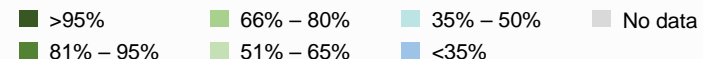
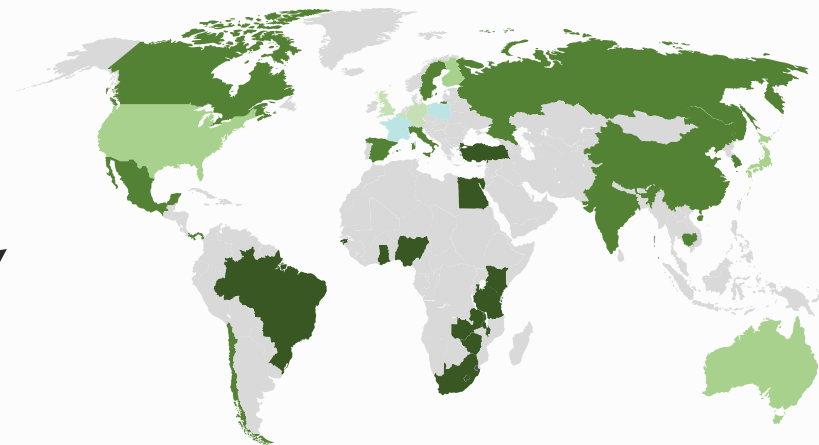
Lower rates ▼



CMV-related disorders

- Hearing loss
- Intellectual disabilities
- Premature birth
- Development delays
- Death

CMV prevalence



¹ Cytomegalovirus (CMV)

Very Low Awareness of CMV Infection in Pregnancy

Potential Effective Treatment to Increase Awareness and Diagnosis

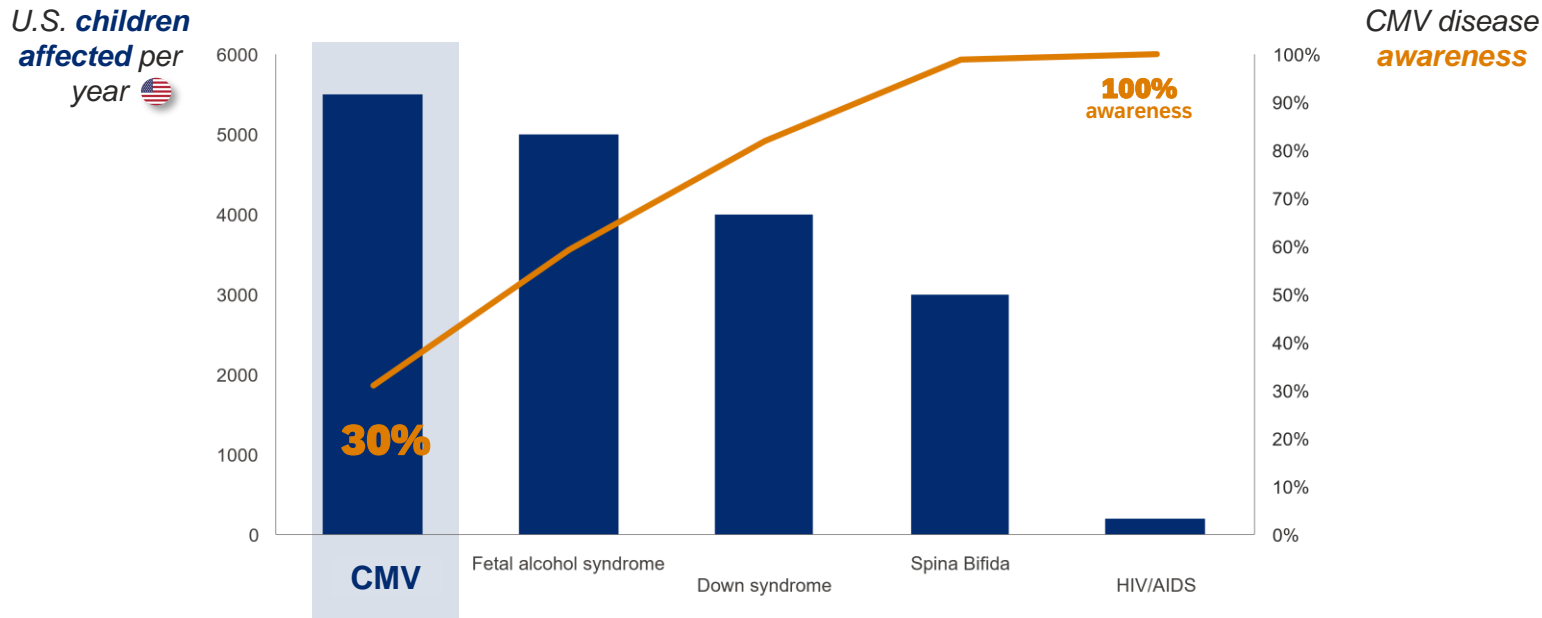


Fig: National CMV Foundation; (www.nationalCMV.org) (adapted)

Cytotect®: Tackling CMV¹ With a High-Potential Specialty Protein

First Treatment to Prevent Transmission from the Mother to the Unborn Child

- It **binds to CMV** and **avoids infections** of host cells and presents CMV particles for phagocytosis



- **Modulates** and **interacts** with **immune cells** (dendritic cells, monocytes, B- and T-cells), exerting a **positive immunological balance**

- **Anti-CMV antibodies** in Cytotect® are actively shuttled through the placenta

- These CMV-specific antibodies **block** the **infection from all CMV genotypes** and from **virus variants** that are resistant to virostatics

¹ Cytomegalovirus (CMV)

Clinical Experience Suggests Good Efficacy of Cytotec®

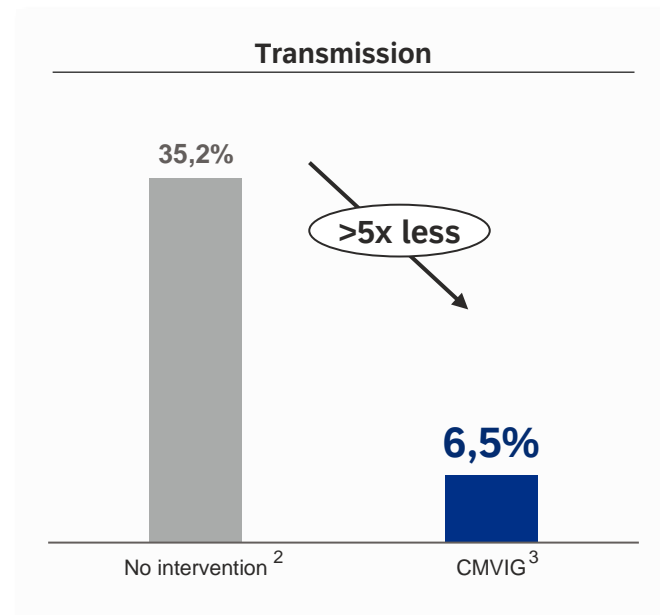
Significant Transmission Reduction When CMVIG¹ Is Administered

Previous prospective, observational study has described success of **study protocol**



Adequate criteria for Phase III leveraging on previous experience:

- Inclusion and diagnosis **criteria revised**
- **Accelerating** treatment start
- Adjusting the **dose**
- Establishing right **intervals**



¹ CMVIG: Cytomegalovirus Immunoglobulin

² No intervention group (n=108), Maternal-fetal transmission at gw20: 35,2% (38/108). Kagan et al. Ultrasound Obstet Gynecol 2019; 53(3): 383-390

³ Treatment group (n=153), Maternal-fetal transmission at gw20: 6,5% (10/153). Kagan et al. Ultrasound Obstet Gynecol 2021; 57: 560-567

PreCySSION Trial: Prevention of Maternal-Fetal CMV Transmission

Following Primary Maternal Infection With Gestational Age ≤ 14 Weeks



Objective:

Demonstrate **efficacy and safety** of Cytotec® in preventing maternal-fetal transmission of CMV



Study Design

- Pivotal, clinical **Phase III**
- Open-label
- Single-arm
- Prospective
- Multicenter
- With historical control group
- **80 subjects – 13 of 80 patients recruited** (as of June 15, 2022).
Recruitment dependent on the course of the pandemic (hygiene measures reduce CMV transmissions).

Experts Unveil the Uniqueness of Anti-CMV

Success of Cytotect® Represents an Important Opportunity

Number of births per year

 **3 M**
EU5¹

 **3.6 M**

Neonates with congenital CMV infection
(0.5% - 1.0% of all newborns)

 **15,000 - 30,000**
EU5¹

 **18,000 - 36,000**



Pediatric infectious disease **experts acknowledge Hyper anti-CMV** and antivirals are the **only therapeutic alternatives** to treat these cases


Important opportunity behind phase III success

Diagnostic tools could be developed, leveraging on Grifols' expertise, to **accelerate** treatment adoption

Source: Centers for Disease Control and Prevention (CDC): [Congenital CMV Infection | CDC](#)




¹ Includes France, Germany, Italy, Spain and United Kingdom

Grifols' Scale and Commercial Strength: Key to Unfold the Full Value of a New Generation of Plasma Medicines

	Fibrinogen	Trimodulin	Cytotect® Pregnancy
Expected market approval	 2024-2025 <i>(combined approval: acquired & congenital deficiency)</i>	 2024-2025	 2024-2025
Key considerations	<ul style="list-style-type: none"> Results of AdFlrst study for acquired FD¹ (interim results June '22) and completed phase I/III trial in congenital FD will serve as the basis for the combined approval in Europe FDA meeting in H2'22 to provide guidance on acceptance of clinical data for BLA 	<ul style="list-style-type: none"> Study duration dependent on interim analysis results Approval timelines assuming earlier TRICOVID trial success 	<ul style="list-style-type: none"> As for now, only European market approval is considered Intention in the mid-term to seek U.S. market opportunity

¹ FD: Fibrinogen deficiency

Grifols' Scale and Commercial Strength: Key to Unfold the Full Value of a New Generation of Plasma Medicines

	Fibrinogen	Trimodulin	Cytotect® Pregnancy
Revenues/ Margins	Significantly improving revenue per liter and margins		
 Biotest opportunity	USD 30-50M	USD ~300M	USD ~30M
GRIFOLS increased capabilities	<ul style="list-style-type: none"> Greater commercial reach Complementary presence in important markets (US) Ability to develop new markets 	<ul style="list-style-type: none"> Scalability of production volumes Full market potential of the main indications becomes addressable 	<ul style="list-style-type: none"> Commercial reach and promotion Diagnostic capabilities
 GRIFOLS Biotest combined opportunity	USD 400-800M	USD 1-2 Bn	TBD
Potential upsides	Leveraging on Diagnostic capabilities Expanding into other geographies (e.g., China)	Peritonitis/lymphopenic sepsis: USD >1Bn each Transplant: USD >30M Pediatric sepsis: USD 80M Multi-drug-resistance: USD 0.2Bn	Potential upside from U.S.  USD >200M

Grifols and Biotest: A Transformational Transaction to Maximize Both Opportunities

Acquisition **enhancing** Grifols and Biotest **opportunities** while **accelerating pipeline**

Expanding and diversifying plasma sourcing by adding 31 European centers and increasing **revenue footprint** in EMEA

Shared **values** and **culture** based on strong **family heritage**

Two **precision therapies** (fibrinogen and trimodulin) and a **new indication for Cytotect®** with an expected market approval by 2024-2025

Unique opportunity to **boost revenue per liter** and **expand margins**

Contributing to increase fibrinogen opportunity up to **USD 400-800M** and trimodulin to **USD 1-2Bn**

GRIFOLS 2022 Investor & Analyst Day

FINANCIALS

Investments in Plasma and Innovation Pipeline to Accelerate Growth and Profitability

Alfredo Arroyo, CFO

Strong Underlying Fundamentals

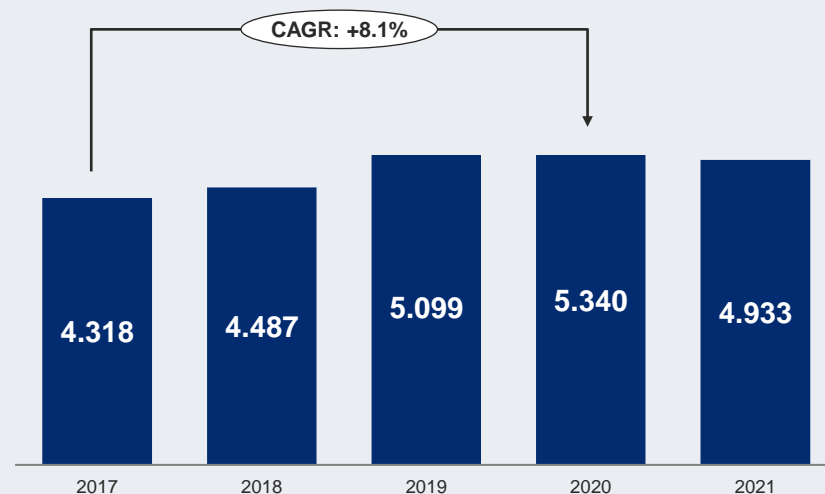
Committed to Long-Term Growth

- **Global player** in the **attractive plasma market** (**7.2%¹ CAGR₂₀₁₇₋₂₀₂₀** for the **industry**) with strong position in the U.S.
- Leaders in **diagnostic solutions** to screen whole-blood and plasma
- Strengthening **global presence** in **China** through SRAAS strategic alliance, **Europe, Middle East and Africa**, and **Canada** (operations in 100+ countries and subsidiaries in 30+)
- Largest **plasma-center network (400+)** and **industrial capacity (22mL+)** to support underlying demand
- **Reinforced pipeline** to deliver a **balanced risk-value portfolio**

¹ The Worldwide Plasma Proteins Market, MRB, February 2022

Grifols revenues

(EUR in millions)



Note: CAGR at constant currency (cc), which excludes exchange rate fluctuations vs. PY

Doubling-Down Efforts to Increase Performance in the Past 2 Years

Reinforced **plasma capabilities** and **capacities**, supporting acceleration of **plasma collections**

Biotech investment bolstering **innovation**, adding two unused plasma proteins

Global footprint while strengthening presence in Europe, China, Canada and Egypt

CAPEX and **R&D** investments to support future growth

Commitment to achieve **deleverage**

Divested non-strategic assets while executing on **structural cost savings**

Full Year Performance Marked by COVID-19

2021 Key Financials

<i>(EUR in millions)</i>	H1'21	H2'21	2021
Revenue	2,537	2,397	4,933
<i>% Growth</i>	+2.3%	(9.8%)	(3.7%)
Gross Margin	1,114	849	1,963
<i>% Margin</i>	43.9%	35.4%	39.8%
R&D	159	196	355
SG&A	507	555	1,062
EBITDA	635	327	962
<i>% Margin</i>	25.0%	13.6%	19.5%
EBITDA Adjusted	637	377	1,014
<i>% Margin</i>	25.1%	15.8%	20.6%
Group Profit	267	(78)	189

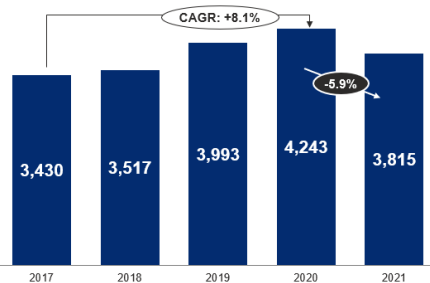
Note: all growths at constant currency (cc), which excludes exchange rate fluctuations vs. PY

The decline in plasma volumes caused by COVID-19 was the primary driver of extraordinary financial impacts

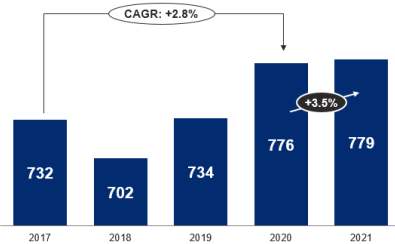
- Lower collections and higher cost per liter impacted revenues and margins particularly in H2 2021
- Strong underlying demand backed by price increases
- Higher R&D and SG&A due to the integration of new companies, transaction and restructuring costs, and inflationary pressures

Bioscience Constrained by Plasma Supply While the Other Divisions Grew in 2021

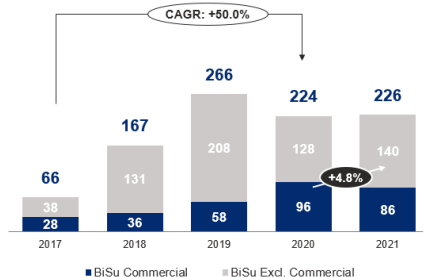
Bioscience



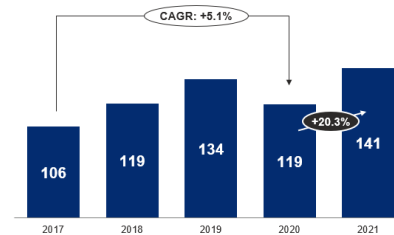
Diagnostic



Bio Supplies



Hospital



- **Underlying demand strong** of key proteins
- **Plasma supply constrained IG volume** growth, especially in the U.S.
- **Strong** performance of **new product launches**: Xembify® gaining traction, VISTASEAL™ and TAVLESSE®

- Growth driven by **COVID-19 test sales** in Spain and Hungary (+34% vs. 2020)
- **Underlying NAT donor screening** impacted by Zika testing mandate termination; whole-blood donations strong in the U.S. and Japan
- **Blood Typing Solutions** strong growth also contributed due to higher volume in the U.S.

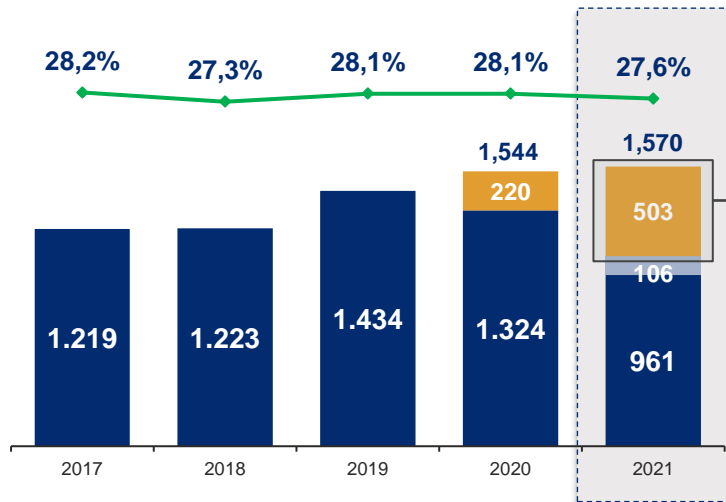
- **Bio Supplies Commercial**, declined due to lower sales of blood cells and serum triggered by lower donations
- **Plasma sales to third-parties increased** based on pre-existing supply agreements

- **Strong growth** following **normalization** of hospital pharmacy investments
- Noteworthy sales of **Pharmatech**, and **IV therapy**
- **Contract manufacturing** growth stemmed from albumin bags and third-party sales

Note: all growths at constant currency (cc), which excludes exchange rate fluctuations vs. PY

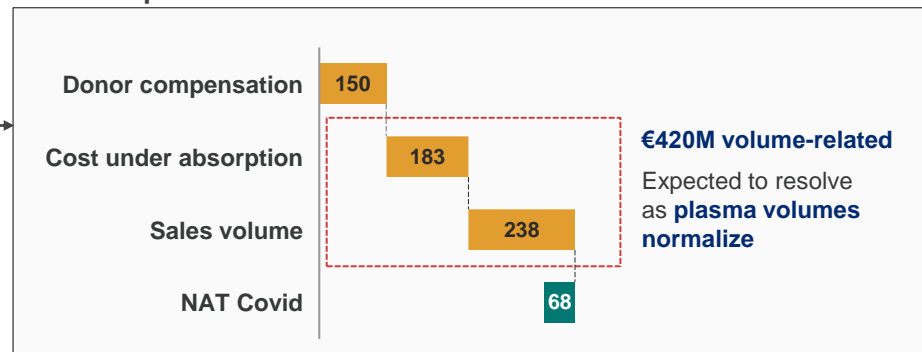
Underlying EBITDA Margin Revealed Strong Fundamentals

(EUR in millions)



- COVID Impact
- Transaction, restructuring, one-offs and Fx
- EBITDA Reported
- Reported / Underlying EBITDA Margin¹

COVID impact on 2021 EBITDA



¹ Reported EBITDA for 2017-2019, and Underlying EBITDA for 2020 as per FY21 Results Presentation



**Investments in plasma
and innovation
pipeline...**



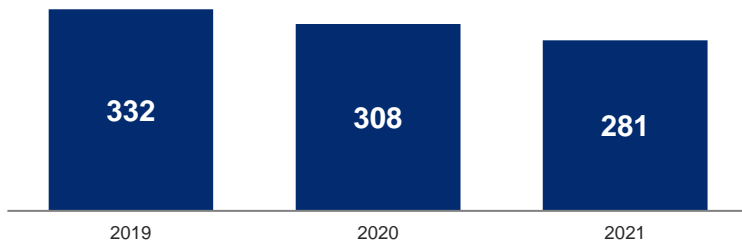
**... to accelerate growth
and profitability**

Strategically Invested to Support and Accelerate Growth

Enhancing industrial capacities

(EUR in millions)

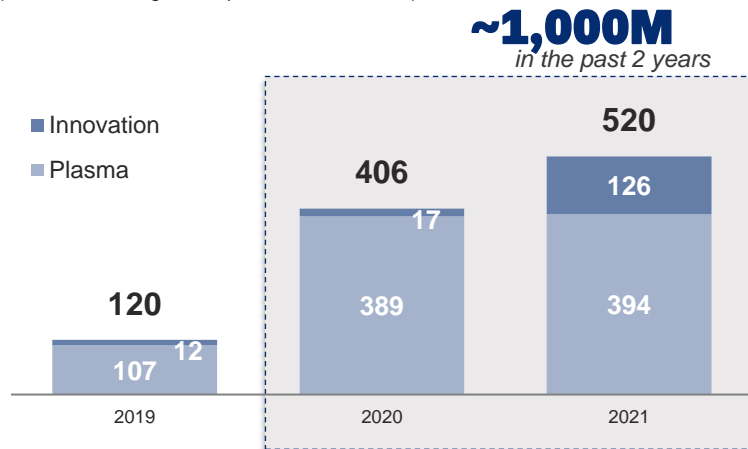
EUR 900+ million CAPEX in 3 years



- New 6ML plasma fractionation plant in Clayton, North Carolina
- World's largest sterile purification and filling plant in Clayton
- New albumin purification and sterile filling plant for flexible containers in Dublin
- Expansion of fibrin adhesive and topical thrombin production plant in Barcelona
- Upgrade Grifols' facilities in Canada

Strengthening plasma and innovation

(EUR in millions; figures as per the Balance Sheet)



INNOVATION
Strengthening innovation ecosystem




PLASMA
Expanding and diversifying plasma assets

 +43
  +1
 centers
+ manufacturing site

Biotest: A Transformational Investment

Complementary Business to Boost Performance

- **Family business** founded in **1946**, HQ in Dreieich (**Germany**)
- Specialized on **immunology** and **hematology**
- Broad **plasma pipeline** to be **launched** in the **short-term**
- Direct **commercial presence** in **10 countries**, marketed in **90+**
- Manufacturing sites reaching **3mL plasma production capacity**
- Strong presence in **Europe: 31 plasma centers***

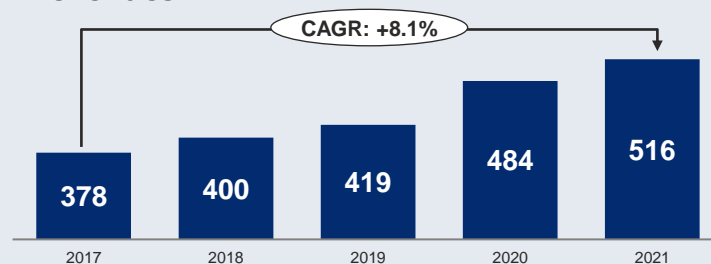
Closing
April 25, 2022

Investment
EUR 1.5Bn

Capital: 70%
Voting rights: **96%**
Preferred shares: **43%**

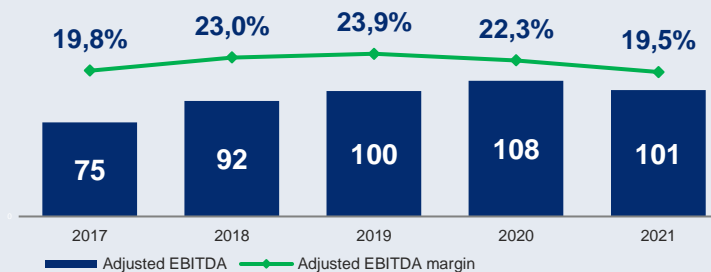
Biotest Financial KPIs (EUR in millions)

Revenues



Adjusted EBITDA²

Excludes mainly Next Level Project costs (production and R&D costs)





Investments in plasma
and innovation
pipeline...



... to accelerate growth
and profitability

Improving Performance in the First Half of 2022

Outlook H1 2022

Revenues

Growths vs. PY

c.+5%

c.-1% *at cc¹*

... driven by
Biopharma

c.+9%

c.+2% *at cc¹*

Biopharma excluding
albumin phasing in H1'21

c.+11%

c.+5% *at cc¹*

EBITDA Margin

Reported

20-22%

Significant sequential
improvement vs. H2 2021

Performance leveraging on:

- Accelerated plasma collections - already reached pre-COVID weekly levels
- Price increases on key proteins
- Robust underlying demand
- Product mix driven by subcutaneous immunoglobulin (SCIG)
- Higher alpha-1 patient base and strong albumin demand
- Partially impacted by albumin positive temporary effect in H1'21 due to commercial integration with SRAAS

- Higher plasma volumes, price increases, product and country mix
- Financial discipline: cost savings and R&D prioritization
- Inflationary labor costs persist
- Donor compensation still high
- Fixed plasma costs decline as volume recovers

¹ Constant currency (cc), which excludes exchange rate fluctuations vs. PY

Positive Performance for 2022 and Beyond

Expected Strong H2 Performance

Plasma

Collections expected to continue **accelerating** throughout 2022 driven by:

- **New** and **recently-acquired centers**
- Larger volumes from **regular centers**
- Plasma collections **upside** if **B1/B2 visa restrictions** in the **U.S. southern border** are **lifted**
- **Technological, digital** and **operational** enhancements



Revenues

Sound revenue growth stemming from **Biopharma**, supported by:

- Strong underlying demand
- Global price improvements
- Product and geo mix

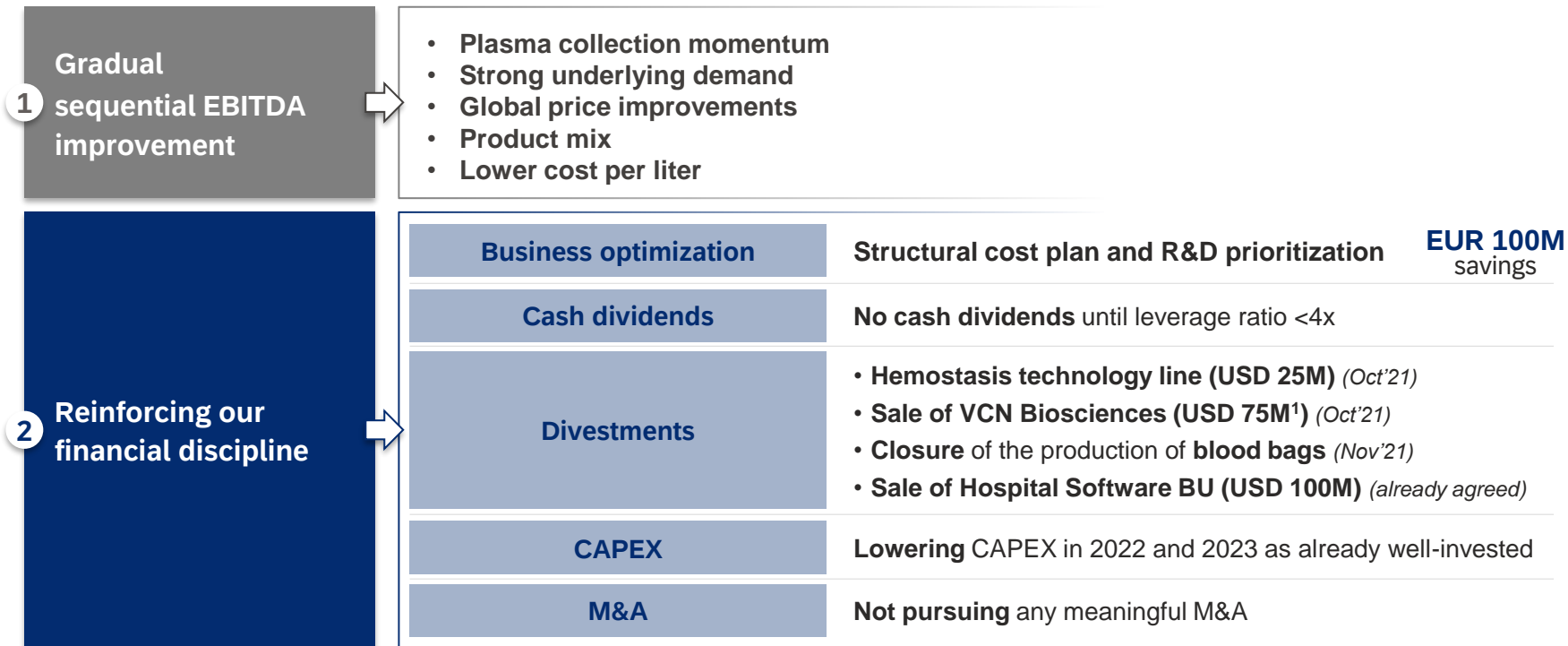
Margins

Sequential gradual expansion

- + Triggering plasma volume
- + Cost savings
- Still high donor compensation; inflationary pressures including wages

Despite Short-Term Challenges, Commitment to Deleveraging Remains Firm

Deleveraging path supported by...



¹ Includes an initial cash payment of USD 4.7 million, the assumption of USD 2.4 million of VCN liabilities and USD 70.3 million in payments, contingent upon the achievement of clinical-development and regulatory milestones over the next six years

Prepared to Respond to the Current Macro-economic Context

Inflation

Inflationary pressures driving higher incentive to donate
Impact on labor costs
No significant impact on energy costs (<1% of cost per liter)

Interest rates

Optimized financial structure. Low exposure to interest rate **hikes**,
since c.65% of debt tied to a fixed interest rate

Exchange rate EUR/USD

FX tailwind in 2022

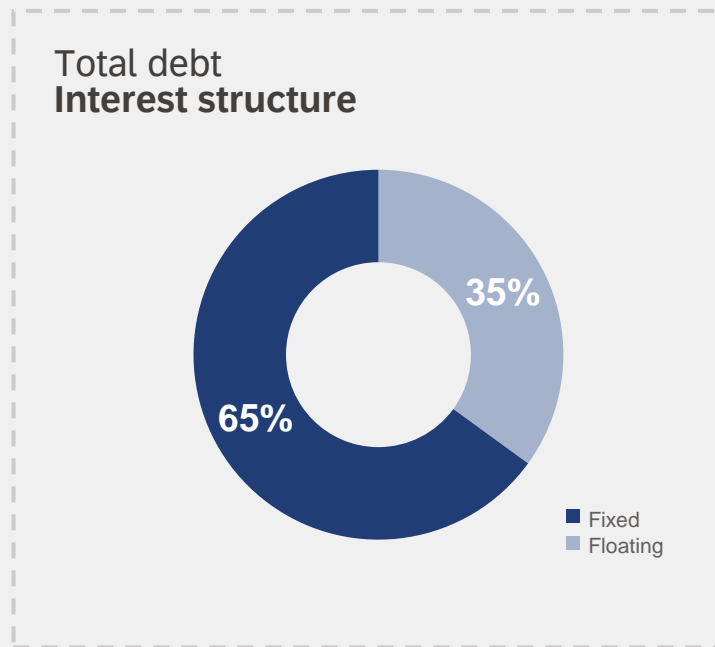
Ukraine-Russia

No direct commercial or industrial presence in Ukraine/Russia
Representing **<0.3% of total sales**

Supply chain

Cross-licensing of our industrial facilities supporting efficient supply chain management

Low Exposure to Interest Rates Hike: 65% Fixed



EUR floating debt

13%

of total debt outstanding

USD floating debt

22%

of total debt outstanding

Investments in Plasma and Innovation Pipeline to Accelerate Growth and Profitability

During 2020 and 2021, Grifols invested to drive further revenue growth and margin expansion

Plasma collection momentum supports sequential performance improvement

Delivered on commitments: divestments and cost optimization

Focus on value creation assets to fuel cash flow and margins

Deleveraging remains a key priority, leveraging on EBITDA improvement and cash flow generation

Prepared to respond to the current macro-economic context

GRIFOLS 2022 Investor & Analyst Day

FINAL REMARKS

Delivering on Commitments Outlined in 2020 and 2021

Víctor Grifols Deu, co-CEO

Our Commitments



Innovation

Accelerating innovation and optimizing our portfolio



Core Business

Gaining focus on Biopharma, Plasma Procurement, Diagnostics and Bio Supplies



Optimizing our business: Divestments and cost optimization



Organization

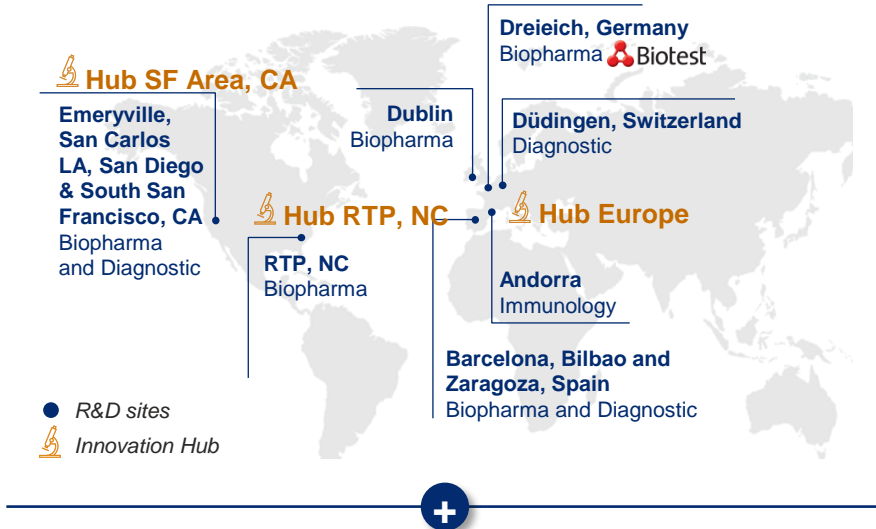
Streamlined our organizational model

Leveraging sustainability leadership to enhance financial and non-Financial performance

Accelerating Innovation and Optimizing Our Portfolio...

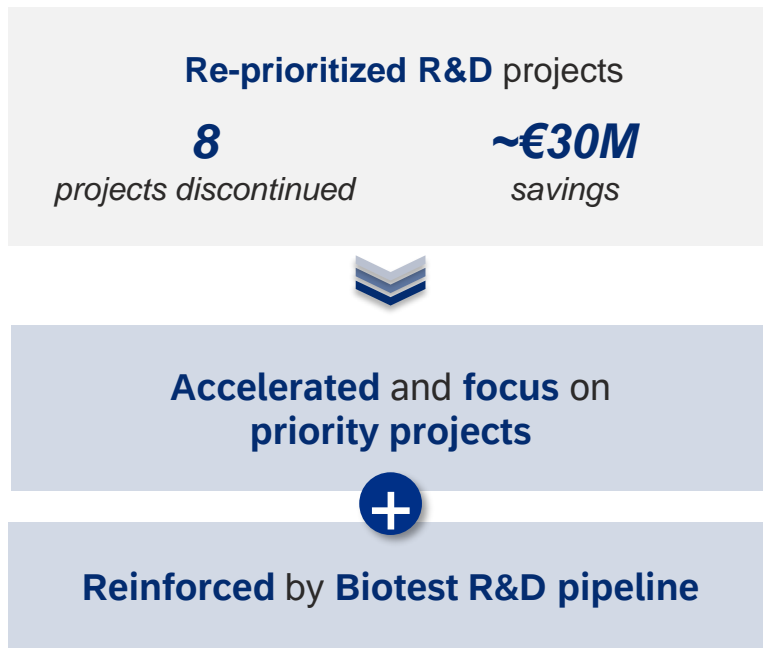
Expanding our innovation footprint...

13 R&D sites and +1,100 employees



R&D collaboration agreement

... while prioritizing on our R&D portfolio



... With Strong Pipeline Enhanced by Grifols' Scalability and Broader Commercial Reach

Accelerated priority projects...



...strengthened with Biotest acquisition

GRIFOLS

Market potential

Xembify® in SID (CLL)

~USD 1Bn

ATIII in Sepsis

~ USD 1Bn

AMBAR-Next

USD 1Bn+

GigaGen Platform

USD 1Bn+

 Biotest

Market potential

Fibrinogen®

USD 400-800M

Trimodulin

USD 1Bn+

CMV IG Hyper

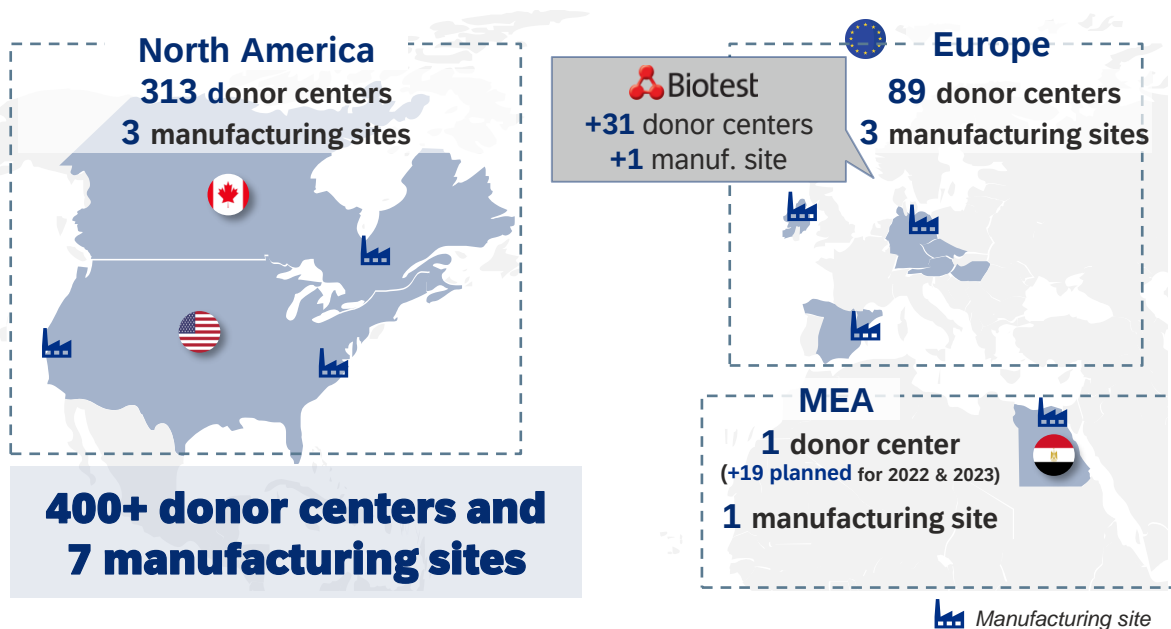
USD 200-300M



Additional proteins to boost revenue per liter and expand margins

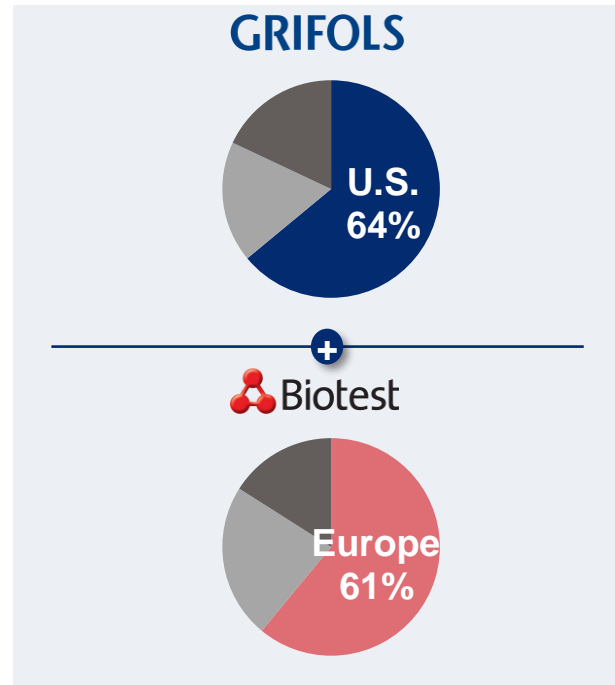
Biopharma | Strong Business Fundamentals Support Biotest Acquisition

Diversified donor center and manufacturing footprint



Note: number of plasma centers as of June 30, 2022

Geographic fit



Diagnostic | Securing U.S. NAT Business While Untapping China Opportunity Through SRAAS Agreement

CTS agreement



Long-term agreement:



- CTS will operate Grifols testing labs
- Grifols will supply NAT instrumentation and testing



- ✓ Long-term NAT supply agreement
- ✓ Increasing efficiency of Grifols labs leveraging on CTS expertise
- ✓ Building a long-term partnership with largest lab in the world



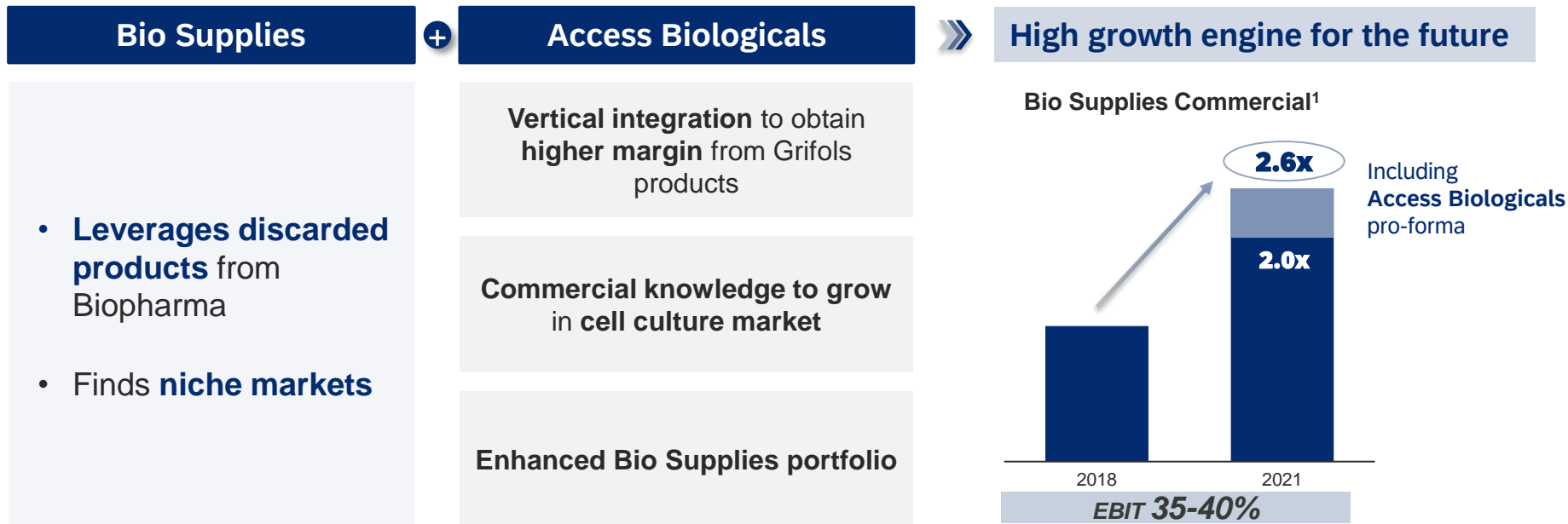
Distribution agreement through SRAAS



- Integrated commercial model combining Grifols' heritage with SRAAS commercial expertise and broad reach
- Leverage SRAAS branding
- Fastest IVD market worldwide with untapped market potential
- Value chain consolidation with the streamlining of all operations from importation to distribution

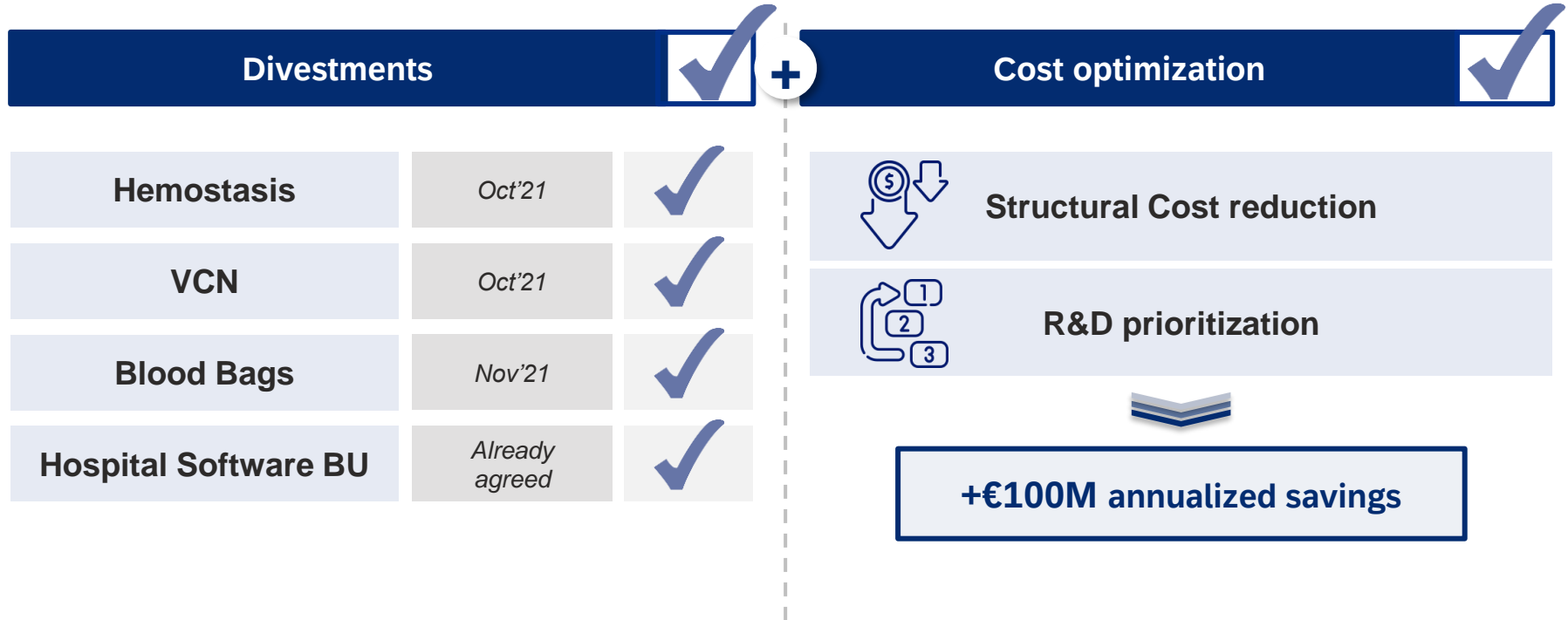
Fuel immunohematology (IH) business line to achieve leadership position

Bio Supplies | High Growth and Profitability Business With the Full Integration of Access Biologicals



Key customers: **Biotechnology research & manufacturing** and **Diagnostic industries**

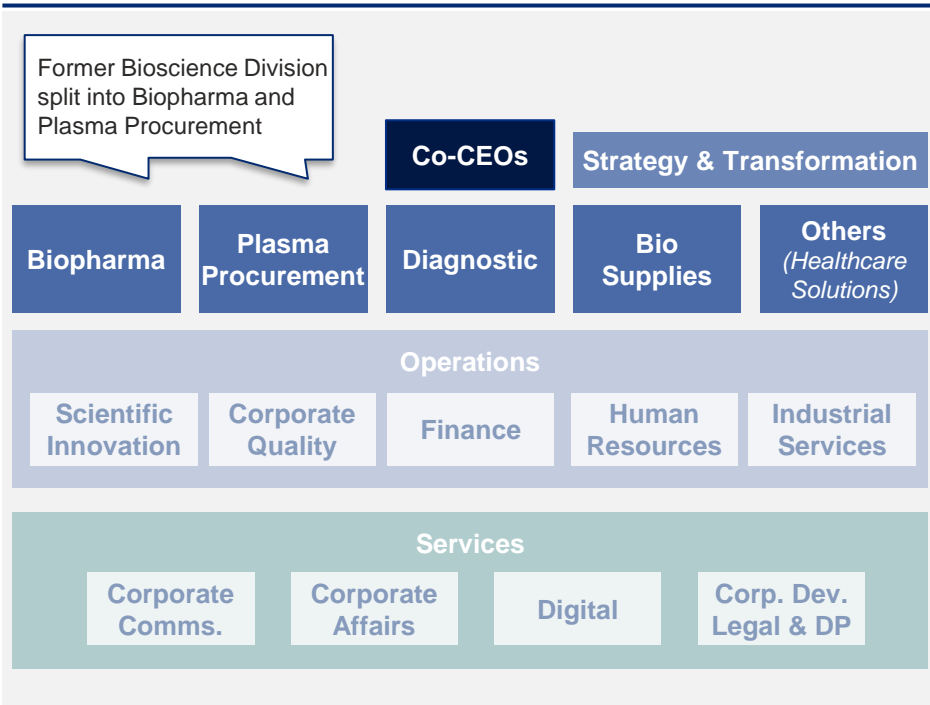
Optimizing Our Business | Focusing On Value-Creation Businesses While Achieving Structural Cost Savings



Evolving Our Organization to Reinforce Competitiveness

Streamlined Value-Driven Business Units to Increase Effectiveness and Efficiencies

One Grifols



Building Principles

- 1 Full-fledged Business Units
- 2 Streamlined value-driven organization
- 3 End-to-end business ownership

- ✓ Enhanced **effectiveness** and **operational efficiencies**
- ✓ **Stronger governance** model
- ✓ **Accountability** over execution
- ✓ **Cutting down** on the **complexity**
- ✓ Key support functions provide **speed & agility**
- ✓ Reduce **time-to-market reaction**

Delivering on Commitments Outlined in 2020 and 2021

Key Takeaways

2017

Feb '20

COVID
Outbreak

Jun '22

Business value

Continuous growth
and value creation

CAGR: +8.1% (at cc)

Stable Cost per Liter
while increasing plasma supply

EBITDA: 28%

Delivered on our commitments:

- **Strengthened the core:**
 - **Gained focus** on Biopharma, Plasma Procurement, Diagnostics & Bio Supplies
 - **Divestments & Cost Optimization**
- **Prioritized & reinforced our innovation pipeline**
- **Streamlined organization**

Further performance fueled by delivering on innovation backed by strong fundamentals

Sound business revenue growth & sequential gradual margin expansion

Supported by strong underlying demand, pricing environment and product/geographical mix coupled with plasma volume efficiencies and cost savings

**Build on robust core: 7 manufacturing plants
400+ plasma centers**

Harvest innovation efforts

New plasma proteins and indications as well as therapies beyond plasma

A grayscale photograph of an elderly couple embracing in a field with mountains in the background. The woman is on the left, wearing a denim jacket, and the man is on the right, wearing a light-colored shirt. They are both smiling and looking towards the right. The background shows rolling hills and mountains under a clear sky.

GRIFOLS 2022 Investor & Analyst Day

June 30, 2022

Glossary



Glossary

- **Alpha-1 antitrypsin deficiency (AATD):** Inherited disease characterized by low levels of, or no, alpha-1 antitrypsin (AAT) in the blood. This protein made in the liver, reaches other organs (such as the lungs), after being released into the blood stream, enabling its normal function
- **Albumin:** The most abundant protein found in plasma (approximately 60% of human plasma). Produced in the liver, it is important in regulating blood volume by maintaining the oncotic pressure of the blood compartment
- **Alzheimer's disease:** This is the most common form of dementia. This incurable, degenerative, and terminal disease was first described by German psychiatrist and neuropathologist Alois Alzheimer in 1906 and was named after him
- **Anti-thymocyte globulin (ATG):** blood serum that contains antibodies that bind with human T cells. It is given to the patient before a stem cell transplant to destroy T cells and decrease the risk of graft-versus-host disease
- **ASFA:** American Society for Apheresis An organization of physicians, scientists, and allied health professionals whose mission is to advance apheresis medicine for patients, donors, and professionals through education, evidence-based practice, research, and advocacy
- **Autoimmune disease:** Condition in which the immune system mistakenly attacks healthy cells
- **Babesiosis/Babesia virus:** Disease caused by microscopic parasites that infect red blood cells
- **Beta-amyloid:** Protein strongly implicated in Alzheimer's diseases. Beta-amyloid is the main component of certain deposits found in the brains of patients of Alzheimer's disease
- **Bullous pemphigoid:** is an autoimmune disease that appears when the immune system attacks the skin and causes blisters, more common in the elderly
- **CIDP (Chronic Inflammatory Demyelinating Polyneuropathy)** Neurological disorder which causes gradual weakness, numbness, pain in arms and legs and difficulty in walking
- **Cirrhosis:** Medical condition which is a result of advanced liver disease. It is characterized by the replacement of liver tissue by fibrosis (scar tissue) and regenerative nodules (lumps that occur due to attempted repair of damaged tissue)
- **Cognitive impairment:** Alterations in thinking, learning, memory, judgment, and decision making
- **COVID-19:** Infectious disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease
- **ELISA:** Enzyme-linked immunosorbent assay
- **EMA:** European Medicines Agency

Glossary

- **Factor VIII or FVIII:** This is an essential blood clotting factor also known as anti-hemophilic factor (AHF). In humans, Factor VIII is encoded by the F8 gene. Defects in this gene result in hemophilia A, a gender-linked disease that occurs predominantly in males. FVIII concentrated from donated blood plasma, or alternatively recombinant FVIII, or rFVIII can be given to hemophiliacs to restore hemostasis
- **Factor IX:** This is an important blood clotting factor also known as Christmas factor or plasma thromboplastin component (PTC). It is one of the serine proteases of the coagulation system and belongs to the peptidase family S1. In humans, a deficiency of this protein causes hemophilia B, a sex-linked disease that occurs predominantly in males
- **FDA:** Food and Drug Administration. U.S. Health Authority
- **Fibrin sealant:** Surgical adhesive material derived from plasma
- **Fibrinogen:** Coagulation factor found in human plasma crucial for blood clot formation
- **Fractionation:** Process of separating plasma into its component parts, such as albumin, immunoglobulin, alpha-1 antitrypsin and coagulation factors
- **GMP:** Good manufacturing practice
- **GPO:** Group Purchasing Organization
- **HAE (Hereditary Angioedema):** Rare but serious genetic disorder characterized by recurrent episodes of severe swelling (angioedema), particularly of the face and airways, and abdominal cramping. It is caused by low levels or improper function of the C1- esterase inhibitor protein
- **HBV:** Hepatitis B Virus
- **HCV:** Hepatitis C Virus
- **Hematocrit:** value that is defined by the amount of blood volume occupied by red blood cells, with respect to that occupied by total blood
- **Hematology:** The study of blood, blood-forming organs, and blood diseases
- **Hemoderivative:** Proteins obtained by fractionation of human blood plasma. See plasma-derived proteins
- **Hemophilia:** Genetic deficiency characterized by the lack of one of the clotting factors. It has two main variants:
 - **Hemophilia A:** genetic deficiency of coagulation Factor VIII, which causes increased bleeding (usually affects males)
 - **Hemophilia B:** genetic deficiency of coagulation Factor IX

Glossary

- **Hemotherapy:** Treatment of a disease using blood, blood components and its derivatives
- **HIV:** Human Immunodeficiency Virus
- **Hyperimmune globulins:** type of immunoglobulins prepared in a manner similar to human normal immunoglobulin, except that the donor has high titers of antibodies against an organism or antigen in their plasma
- **IA:** Immunoassays. These are systems available in several formats that may be used to detect antibodies, recombinant proteins or a combination of the two
- **Intravenous:** Administration of drugs or fluids directly into a vein
- **Immunohematology:** A branch of hematology related to the study of recombinant proteins and antibodies and their effects on blood and the relationships between blood disorders and the immune system. Also referred to as Transfusional Medicine – blood bank, its main activities include blood typing, compatibility tests and crossmatching and antibody identification
- **Immunology:** This is a branch of biomedical science that covers the study of all aspects of the immune system in organisms. It deals with the physiological functioning of the immune system in states of both health and disease; malfunctions (autoimmune diseases, hypersensitivities, immune deficiency, transplant rejection) and the physical, chemical and physiological characteristics of the components of the immune system in vitro, in situ, and in vivo
- **Immunoglobulin (IgG):** Also known as antibodies, are proteins derived from plasma. They control the body's immune response. They have multiple indications and some of their main uses are to treat: (i) immune deficiencies, (ii) inflammatory and autoimmune diseases and (iii) acute infections. IVIG is an immunoglobulin administered intravenously that contains IgG (immunoglobulin (antibody)G)
- **ITP (Chronic immune thrombocytopenia):** Autoimmune disorder in which patients produce antiplatelet autoantibodies and specialized white blood cells that destroy their blood platelets. This results in a low blood platelet count (thrombocytopenia) that may produce bruising or excessive bleeding
- **IVD:** In vitro Diagnostic
- **IV solutions/Intravenous solution:** Medicine or homogeneous mixture of a substance in liquid, enabling it to be infused into the circulatory system through a needle
- **Lipemic plasma:** plasma with a cloudy and/or milky appearance, caused by excess lipids (hyperlipidemia) mainly cholesterol and/or triglycerides in the blood, which in some cases becomes evident
- **MRB:** Marketing Research Bureau

Glossary

- **Molecular Diagnostic:** Discipline that studies genomic (DNA) and proteomic (proteins) expression patterns and uses the information to distinguish between normal, precancerous, and cancerous tissues at the molecular level
- **Monoclonal antibody (mAb):** Antibody produced by a single clone of cells typically used in immunotherapy (such as in the treatment of autoimmune or inflammatory disorders and cancer), diagnostic testing and cell identification and tracking. Monoclonal antibodies are a cornerstone of immunology and are increasingly coming into use as therapeutic agents
- **Myasthenia Gravis (MG):** Chronic autoimmune, neuromuscular disease that causes weakness in the skeletal muscles that worsens after periods of activity and improves after periods of rest. These muscles are responsible for functions involving breathing and moving parts of the body
- **NAT:** Nucleic Acid Amplification Testing
- **Neurology:** Science that deals with the anatomy, functions and organic disorders of nerves and the nervous system
- **Northamerica:** includes the U.S. and Canada
- **Ophthalmology:** branch of medicine and surgery that deals with the diagnosis and treatment of eye diseases
- **Pandemic:** The worldwide spread of a new disease
- **Parkinson's Disease:** complex neurodegenerative disorder in which each patient experiences a different combination of motor and non-motor symptoms
- **PCR:** Polymerase chain reaction is a method widely used to rapidly make millions to billions of copies of a specific DNA sample, allowing scientists to take a very small sample of DNA and amplify it to a large enough amount to study in detail
- **pdFVIII:** Plasma-derived Factor VIII
- **Pharmacovigilance:** Practice of monitoring the effects of medical drugs after they have been licensed for use, especially in order to identify and evaluate previously unreported adverse reactions
- **Plasma:** Yellow-coloured liquid part of the blood, consisting of a mix of a large number of proteins in solution
- **Plasma-derived proteins:** Purified plasma proteins with therapeutic properties that are obtained through the fractionation of human plasma. Albumin, immunoglobulins, factor VIII and alpha-1 antitrypsin are the main plasma proteins
- **Plasma proteomic:** describes the high throughput analysis of plasma biomarkers using very powerful, sensitive and specific instruments

Glossary

- **Plasmapheresis:** Plasmapheresis is a technique which separates plasma from other blood components, such as red blood cells, platelets and other cells. These unused blood components are suspended in saline solution and immediately reinjected back into the donor. Because the donor is only providing plasma and not whole blood, the recovery process is faster and better tolerated and the donor is able to make donations more frequently. Plasmapheresis was developed by Jose Antonio Grifols Lucas in the year 1951. It is the only procedure that is capable of obtaining sufficient quantities of plasma to cover the manufacturing needs for the different plasma protein therapies
- **Pneumology:** is the specialty that takes care of the diagnosis and treatment of respiratory diseases. Pulmonologists treat everything related to the respiratory system from asthma to tuberculosis
- **PPTA:** Plasma Protein Therapeutics Association
- **Primary arthroplasty:** Surgery performed to replace damaged joints for various reasons, such as hip fractures, osteoarthritis or other rheumatic diseases, by artificial joints called prostheses
- **Primary immunodeficiency (PI):** Inherited condition where there is an impaired immune response, weakening the immune system and allowing infections and other health problems to occur more easily. It may be in one or more aspects of the immune system
- **ProlastinR/ProlastinR -C:** This is a concentrated form of alpha-1 antitrypsin (AAT), derived from human plasma and approved only for chronic, or ongoing, replacement therapy in people with genetic AAT deficiency. Given as prescribed, Prolastin raises the levels of AAT in the blood and lungs. Raising the AAT level may help reduce the damage to the lungs caused by destructive enzymes
- **Proteome:** set of proteins that an organism synthesizes from the genes it contains to give the cell its individual character. This set of proteins determines what organisms are like, how their bodies work and how they behave
- **Recombinant:** Protein prepared by recombinant technology, coded by the manipulated gene. Procedures are used to join together segments in a cell-free system (an environment outside a cell organism). They are known as highly potent medicines that are safe from off-target side effects and take a shorter time to develop than small molecules
- **Recovered plasma:** plasma derived from whole blood collected in blood donations
- **rFVIII:** Recombinant Factor VIII is the antihemophilic factor A, obtained using recombinant DNA technology. With this technology, pure factor is synthesized in the laboratory instead of being extracted from blood plasma

Glossary

- **Rh (Rhesus) blood group system:** Most important blood group system after ABO. The Rh blood group system consists of 50 defined blood-group recombinant proteins, among which the five recombinant proteins D,C, c, E and are the most important. The commonly used terms Rh factor, Rh positive and Rh negative refer to the D antigen only
- **ROW:** Rest of the World
- **SARS-CoV-2:** Severe acute respiratory syndrome coronavirus 2 is the strain of coronavirus that causes coronavirus disease 2019 (COVID-19), the respiratory illness responsible for the COVID-19 pandemic
- **Secondary immunodeficiency:** Occurs when the immune system is compromised due to an environmental factor. Examples of these outside forces include HIV, chemotherapy, severe burns or malnutrition
- **SCIG:** subcutaneous immunoglobulin
- **Single-cell transcriptomics:** technique to characterize cell identity
- **SCIG/SubQ:** Sub-cutaneous
- **Thrombin:** Enzyme that presides over the conversion of a substance called fibrinogen to fibrin, which promotes blood clotting
- **Transfusion medicine:** Branch of medicine that encompasses among others, immunohematology, blood and plasma screening and blood typing
- **West Nile Virus (WNV):** Virus transmitted by mosquitoes. Humans are mainly infected through mosquito bites, but infection can occur through organ transplantation and blood
- **Von Willebrand Disease (vWD):** This is the most common hereditary coagulation abnormality described in humans, although it can also be acquired as a result of other medical conditions. It arises from a qualitative or quantitative deficiency of von Willebrand factor (vWF), a multimeric protein that is required for platelet adhesion
- **Zika virus:** Infectious disease spread by the bite of an infected Aedes species mosquito