## **Investors' & Analysts' Meeting 2017**

Emeryville (California, USA) June 7<sup>th</sup> and 8<sup>th</sup>, 2017



## Wednesday, June 7th 2017 Emeryville

Time	Торіс	Presenter
08:30	Pick up from hotels	
09:00	Arrival at Grifols Diagnostic Solutions (GDS) headquarters	
09:00 - 09:30	Coffee + Welcome	
09:30 - 9:45	Introductory remarks	V. Grífols Deu
09:45 - 10:15	Grifols global leadership	R. Riera
	Bioscience Division	
10:15 - 11:00	Plasma procurement strategy	E. Herrero
11:00 - 11:15	Coffee break	
11:15 - 12:15	Commercial strategies to deliver sustainable growth	L. Morgan
12:15 - 13:00	Bioscience capacity expansion plan: keeping pace with growing demand	D. Fleta
13:00 - 14:00	Lunch	

## Wednesday, June 7th 2017 Emeryville

Time	Topic	Presenter
14:00 - 14:30	Hospital Division: expansion through integrated solutions	P. Allen
	Diagnostic Division	
14:30 - 15:00	Driving profitable growth	C. Schroeder
15:00 - 15:30	Maximizing value through effective integration	G. Rich
15:30 - 16:00	Investing for growth	O. Duñach
16:00 - 16:30	Q&A	
16:30 - 16:45	Coffee break	
16:45 - 17:00	Tour presentation	C. Roura / R. Biosca
17:00	Facility tour	
18:00	Transfer to restaurant	
18:45	Update on Alkahest	T. Wyss-Coray
19:00	Dinner	

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## Thursday, June 8th 2017 Emeryville

Time	Topic	Presenter
08:00	Pick up from hotels	
08:30	Arrival at Grifols Diagnostic Solutions (GDS) headquarters	
08:30 - 09:00	Coffee	
09:00	Bio Supplies Division introduction	A. Arroyo
09:00 - 09:30	Access Biologicals	M. Crowley
09:30 - 10:15	Innovation: redefining the industry	D. Bell
10:15 - 10:45	Coffee break	
10:45 - 11:45	Financials: focus on profitable growth	A. Arroyo
11:45 - 12:15	Q&A	
12:15 - 12:45	Driving value creation through disciplined strategy execution	V. Grífols Deu
12:45	Lunch and transfers to airport	

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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 proforma 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.

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PRIDE SAFETY EFFORT

Introductory remarks EFFOR

Víctor Grífols Deu Co-Chief Executive Officer



COMMITMENT EXCELLENCE TEAMWORK INNOVATION & IMPROVEMENT



## PRIDE SAFETY

# Grifols global leadership An industry pioneer and market leader

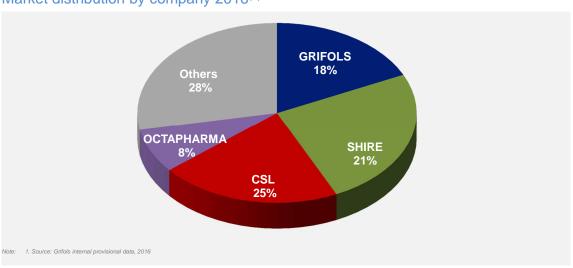
Ramón Riera
Chief Operations Officer



EXCELLENCE
TEAMWORK
INNOVATION &
IMPROVEMENT

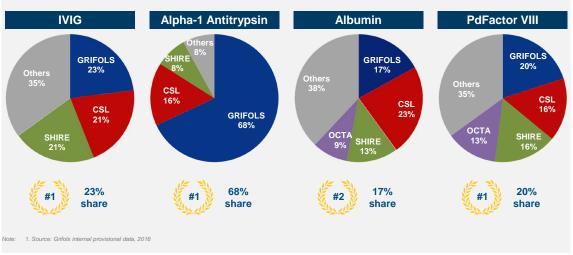
## Global leader in the plasma-derivatives sector

Market distribution by company 2016<sup>(1)</sup>



## Global leader in the plasma-derivatives sector

Leadership position for three major proteins(1)



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Leadership and successful pioneering track record

### Leadership and successful pioneering track record

Competitively positioned across the value chain

- Transfusion and transfusion safety
- Hospital pharmacy
- Quality and safety of our products
- Hemophilia community
- Alzheimer's and liver diseases
- Alpha-1 deficient patients community
- Immunodeficient patients and neurological disorders
- Support of rare diseases
- Global footprint

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## Pioneers in blood transfusion and blood and plasma collection

Dedicated to developing innovative healthcare products and services since 1940

#### · Invention of the Flebula

The double-ended device known as the *flebula* was introduced in 1928 by José Antonio Grífols Roig. The device resolved many of the inconveniences related to blood transfusions, including poor asepsis, severe vein damage in patients and transport challenges

#### • Development of Plasmapheresis

Dr. José Antonio Grífols Lucas developed the process of plasmapheresis to obtain plasma for transfusion and fractionation. In 1951, he presented the results of his research at the 4<sup>th</sup> International Congress of Blood Transfusion. The paper was published in 1952 in the *British Medical Journal* 

Today, plasmapheresis continues to be a common procedure in plasma donation centers to obtain plasma for fractionation





## Pioneers in blood transfusion and blood and plasma collection

Dedicated to developing innovative healthcare products and services since 1940

• Development of IV Solutions and micro-hematocrit

In 1951, Gri-Cel introduced the hematocrit technique in the Spanish market. The device reads the ratio of red cells in the blood in a simple step





Manufacturing facilities of blood-collection bags

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## Pioneers in blood transfusion and blood and plasma collection

Automatic Coombs centrifuge



## Leadership and successful pioneering track record

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## Innovation in IV fluid therapy, pharmacy compounding and medication delivery



Manufacturing facilities for parenteral solutions

## Innovation in IV fluid therapy, pharmacy compounding and medication delivery



Manufacturing facilities for parenteral solutions

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## Innovation in IV fluid therapy, pharmacy compounding and medication delivery

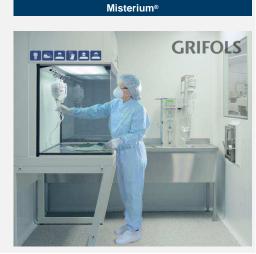
- Support for the hospital pharmacy in Spain and Latin America; development of specific software to manage hospital pharmacy inventories
- Unidose software
- Flebobag introduction





## Innovation in IV fluid therapy, pharmacy compounding and medication delivery





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## Innovation in IV fluid therapy, pharmacy compounding and medication delivery



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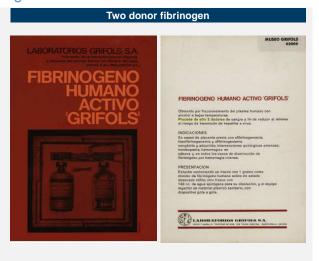
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## Leading the industry in product safety and innovation

A history of quality and safety fosters long-term value







## Leading the industry in product safety and innovation

A history of quality and safety fosters long-term value

- First fractionator to apply pdFVIII viral inactivation
- Early adoption HCV testing (1984)
- Early adoption HIV testing (1985)
- FDA establishment license (1995)
- · Academies in Barcelona, Glendale, Indianapolis





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## Leading the industry in product safety and innovation

A history of quality and safety fosters long-term value

#### **PediGri**®

- Grifols has offered PediGri® to healthcare professionals for more than 20 years
- This unique service provides a simple yet effective means of tracing each unit of final product back through the production chain, providing additional information about the quality and safety of plasma-derived products
- PediGri® reflects the company's beliefs in transparency and longstanding commitment to healthcare professionals





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## First manufacturer of pdFVIII to apply double viral inactivation

Commitment to innovation for enhanced well-being

- Introduced in the early 1980s, Criostat® was Grifols' first concentrated clotting pdFVIII
  - 1984 Criostat® HT, a heat-treated version
  - 1989 Criostat® SD-2, with double viral inactivation: heat treatment and solvent-detergent process
- Removal of inhibitors to pdFVIII through immunotolerance regimes with pdFVIII clinical experience



## **Grifols participation in SIPPET**

Commitment to innovation for enhanced well-being

- The SIPPET<sup>(1)</sup> Study (Survey of Inhibitors in Plasma-Product Exposed Toddlers) is an international multicenter clinical trial involving 42 sites and 14 countries in 5 continents, whose main objective is to evaluate the frequency of inhibitor development in previously untreated hemophilia patients, following exposure to plasma derived concentrates
- The findings may shape the understanding of the condition and treatment strategies



Note: 1, SIPPET Study results show that treatment with recombinant factor VIII (FVIII) is associated with an 87% greater incidence of inhibitors than when using plasma-derived factor VIII with von Wilebrand factor (GVFIIII/VWF) in previously uniterated adainst with severe hemosphilia A

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## **World Federation of Hemophilia donation**

Grifols continues to support the global hemophilia community

- Grifols will donate a minimum of 140 million international units (I.U.) of blood clotting factors to the World Federation of Hemophilia (WFH) over the next 5 years as a continuation of the company's 3-year commitment, which began in 2014
- The renewed partnership with WFH reaffirms Grifols' commitment to the global hemophilia community. It is the company's most significant contribution to date to the WFH Humanitarian Aid Program





#### The Martín Villar Haemostasis Awards

Grifols continues to support the global hemophilia community

- Grifols is committed to promoting scientific research as part of an ongoing process to enhance the health and well-being of people worldwide
- The Martín Villar Haemostasis Awards aim to support scientific excellence and innovation, by engaging both physicians and scientists early in their careers who are interested in investigating hemostasis and blood coagulation disorders and promoting new insights and innovation in this area



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## More than 10 years of commitment with Alzheimer

Leading advocates in the fight against Alzheimer's

- · Research strategy:
  - · Early diagnosis
  - · Treatment that slows its progression
  - · Vaccination to prevent and protect
- The medical study AMBAR (Alzheimer Management by Albumin Replacement) is based on the use of albumin and IVIG through hemapheresis (selective removal of certain components of blood) as a treatment for patients with mildto-moderate Alzheimer's disease
- In 2012, Grifols acquired 51% of Araclon Biotech's share capital
- Development of a vaccine that would combat the disease in asymptomatic preclinical stages





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## **Groundbreaking liver cirrhosis trials**

Exploring new indications for albumin

APACHE

Phase III study on acute-on-chronic liver failure (ACLF) based on albumin detoxification functions using Albutein® 5%

• PRECIOSA

Phase III study on administration of Albutein® 20% in patients with advanced cirrhosis and its impact on cardio circulatory, renal function and hepatic hemodynamics



## **The Albus Albumin Awards Program**

#### Driving the benefits of albumin

- The Albus program seeks to foster the creation of a scientific network and spread the knowledge of use of albumin as a therapeutic alternative
- The program is further testament of Grifols' commitment to innovation in this field



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## The isolation and purification of alpha-1 antitrypsin and its therapeutic administration began in the 1980s

- 1987: license for replacement therapy to treat severe congenital deficiency and impaired lung function
- 1988: launch in the U.S. and licensed in Canada and Germany
- 1992: license in Spain
- 2009: Talecris Biotherapeutics receives approval for Prolastin<sup>®</sup>-C, a more concentrated version
- 2011: Grifols acquires Talecris Biotherapeutics



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## Alpha-1 antitrypsin deficiency

Grifols is leading the industry in treating alpha-1 deficiency

Grifols is global leader in alpha-1 antitrypsin. The most common symptoms of alpha-1 antitrypsin deficiency (AATD) relate to gradual loss of lung function. An estimate 1 in every 2,500 patients suffers from AATD, 95% of which are undiagnosed

Grifols continuously invests in research and technology in order to:

- Expand awareness of AAT deficiency
- Increase product supply
- Enhance safety
- · Offer innovative products and delivery techniques



## **International Alpha-1 Patient Congress, April 11-13, 2013**

Grifols is leading the industry in treating alpha-1 deficiency

- On April 11, 2013 Grifols hosted the Alpha-1 Patient Congress to commemorate the 50<sup>th</sup> anniversary of the discovery of alpha-1 antitrypsin deficiency
- More than 200 delegates, including clinicians, researchers, educators, advocates, patients and Grifols representatives, participated in a special event held at the Sant Cugat Auditorium
- Delegates from over 20 countries attended the event.
   The congress was highly successful, achieving its overriding goal of increasing awareness about alpha-1 antitrypsin deficiency and gathering researchers and patients to work together toward a cure



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## The ALTA Alpha-1 Antitrypsin Laurell's Training Award

Driving the benefits of alpha-1 deficiency

- The ALTA award strives to identify and engage researchers, both physicians and scientists, who are early in their careers and have a keen interest in researching alpha-1 antitrypsin deficiency
- The award also aims to reinforce collaborations among scientists and clinicians working in the field of alpha-1 antitrypsin deficiency



## Leadership and successful pioneering track record

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## The SPIN Scientific Progress Immunoglobulins in Neurology

Proven commitment to address neurological diseases

- The SPIN Award Program was launched in 2008 to support research on the use of immunoglobulins in neurology
- Grifols considers the program a tangible contribution to improve the standards of care and outcomes for patients with neurological conditions
- Objectives:
  - Develop novel concepts in immunoglobulin research in the field of neurology
  - Encourage the discovery of beneficial immunoglobulin applications for neurologic disorders
  - Promote research of novel therapeutic options for patients with neurologic conditions





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## Hemophilia

Support of rare diseases

#### Hemophilia A

- The most common form of hemophilia, present in about 1 in 5,000-10,000 male births
- Known as Factor VIII deficiency or classic hemophilia
- Treatment: Alphanate® and Fanhdi®

#### Hemophilia B

- A rare form of the disease caused by a deficiency of Factor IX which affects only 1 in every 30,000 males worldwide
- Treatment: AlphaNine® SD





## **Neurological diseases**

#### Support of rare diseases

#### **Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)**

- A rare disorder of the peripheral nerves. The number of new cases per year is about 1-2 per 100,000 people. Early detection is critical to prevent long-term axonal damage
- Gamunex®-C is indicated for treatment of CIDP to improve neuromuscular disability and impairment, as well as for maintenance therapy to prevent relapse

#### Post-Polio Syndrome (PPS)

- Recognized as a rare disease. The U.S. FDA has granted orphan drug designation for the use of human immunoglobulin
- Immunoglobulin has shown significant and clinically meaningful results in endpoints such as pain, walking mobility and quality of life

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## Alpha-1 and specialty plasma products

#### Support of rare diseases

- Alpha-1 deficiency: a genetic disorder that causes significant reduction in the blood protein alpha-1
  antitrypsin causing certain enzymes to attack healthy tissues, primarily in the lungs. To replace
  reduced levels of this protein, physicians often prescribe an alpha-1 proteinase inhibitor
- Hyperimmunoglobulins: concentrated, plasma-derived immunoglobulins which provide rapid
  passive immunity to patients with immune systems compromised or challenged by exposure to
  infectious agents
- Grifols produces hyperimmunes for a variety of diseases:
  - Tetanus
  - Rabies
  - · Hepatitis A&B
  - · Congenital Rubella
  - · RH hemolytic disease of the newborn (HDN)
  - Varicella





## **The GATRA Program Research Awards**

Grifols longstanding commitment to research

- Awarded annually, the GATRA Program (Grifols Scientific Awards about research on antithrombin) is designed to cultivate a scientific network and spread knowledge about antithrombin as a therapeutic product. Project proposals often relate to efficacy, mechanism of action, safety and tolerability, quality of life and pharmacoeconomics
- Evidence of Grifols' commitment to innovation, GATRA aims to:
  - · Develop novel concepts on antithrombin research
  - · Encourage new applications of antithrombin
  - Further investigate mechanisms of action and clinical effects in different indications
  - Establish new and long-lasting collaborations among scientists and clinicians
  - Reinforce and build the existing network between the researcher community and Grifols
  - · Foster relationships with key opinion leaders across different fields



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## Leadership and successful pioneering track record

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## First steps toward international expansion

Increasing our global footprint

- In 1983, Grifols established trade connections with China via the Green Cross Corporation, initially exporting gammaglobulin, followed by albumin
  - China was Grifols' first truly important export customer. In 1984, exports of gammaglobulin totaled approximately 2 million vials
- Portugal was the company's first foreign subsidiary.
   Established in Lisbon in 1988, it was our first step in a process of internationalization, offering important insights and laying the groundwork for our future global expansion



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#### **Latin American subsidiaries and Miami**

Increasing our global footprint

- Chile, established in 1990 in Santiago
   Among the first subsidiaries to sell nearly the entire portfolio
- Argentina, established in Buenos Aires in 1991
   Sells all main product lines for domestic market, as well as for Paraguay and Uruguay
- Mexico, established in 1993
   Also distributes to Bolivia, Ecuador, Venezuela and Central America
- Miami, inaugurated in 1990
   The site of our first U.S. office
- Brazil, established in Curitiba in 1998 Branch in Sao Paulo



## **European subsidiaries/Czech Republic Fractionation Program**

Increasing our global footprint

- United Kingdom, based in Cambridge and established in 1979 as a subsidiary of Alpha. Early in 1990, it became a distributor of Grifols IVIG and pdFVIII
- Czech Republic, Customer Fractionation Program. Grifols commenced its activities through Coyco Farma. A year later, the company won the tender from the Czech Department of Health to fractionate plasma collected in the country. In 1992, a subsidiary was established in Prague, which was also responsible for Albania, Poland and Bulgaria
- Italy, established in 1993 in Pisa by Alpha, acquired by Grifols in 1997
- Germany, Grifols Deutschland progressively took over in 1997 all activities previously performed by Alpha GmbH in the German plasma protein market. At that time one of the most important in the world



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#### Presence in Asia

Increasing our global footprint

- The first office in Asia was opened in 2000 in Singapore, which serves as a springboard for entering other Southeast Asian markets. After acquiring the Alpha assets in 2003, it joined the Malaysian and Thai subsidiaries
- Grifols Asia-Pacific serves 15 countries in the region





## U.S. entry through the acquisitions of Alpha and Talecris assets

Increasing our global footprint

- In 2003, Grifols acquired the assets of Alpha
   Therapeutic Corporation-Mitsubishi and established corporate offices in California. From this base, the company manages plasma therapy manufacturing and oversees the U.S. sales structure for the Bioscience and Diagnostic divisions
- 2011, acquisition of Talecris Biotherapeutics Inc., which made Grifols the third largest global manufacturer of plasma-derived protein therapies



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## Direct commercial presence in 30 countries

Increasing our global footprint



# Key takeaways Grifols global leadership

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## **Key takeaways**

Grifols global leadership

- Grifols is a strong and well-positioned industry growth leader
- Successful track record built on sustainable strategies
- Grifols' focus on patients, advancement of treatment options and production of innovative industry solutions is delivering results
- Grifols is a true global player with a worldwide presence to optimize the business
- Grifols' pioneering mindset and approach is a competitive advantage



## PRIDE SAFETY

# Plasma procurement strategy Capacity leadership to maximize growth

Eduardo Herrero

Deputy President of Bioscience Industrial Group



TEAMWORK
INNOVATION &
IMPROVEMENT

## **Agenda**

A comprehensive strategy to continue increasing plasma collection

- 1. An integrated model: a solid structure for a sustainable growth
- 2. Plasma procurement strategy: growth and plasma cost framework
- 3. Integrated supply chain model:
  - · Logistics and transportation
  - · Testing laboratories and capabilities
  - Talent management
  - Driving efficiencies through organizational and operational improvements
- 4. Key takeaways

# Grifols: A fully integrated plasma procurement model

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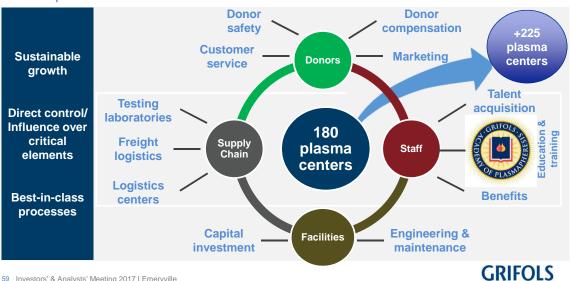
## A fully integrated plasma procurement model

Committed to support sustainable growth

- Grifols aims to consistently offer the safest and highest-quality plasma while delivering the best donor experience
- The 7,000+ Grifols Plasma Operation (GPO) professionals contribute toward sustainable growth by:
  - Opening new centers, as well as expanding or remodeling existing ones
  - · Innovating and improving processes and systems to provide an enhanced donor service
  - · Building an efficient supply chain by managing testing labs and logistics centers
- Grifols strives to ensure long-term sustainability by:
  - Moving toward decentralization, greater flexibility and adaptability in a dynamic environment
  - Generating business platforms that adapt more easily to change

## A fully integrated plasma procurement model

Plasma procurement universe



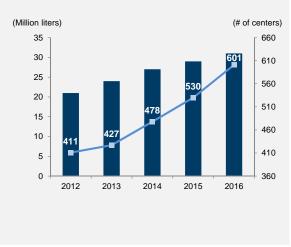
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Plasma procurement strategy: **Growth and plasma cost framework** 

## Plasma procurement strategy

#### U.S. plasma collection growth<sup>(1)</sup>

- Plasma collection is a large, growing industry
- Since 2012, the number of centers and volume collected have increased by 45%
- In 2016, the U.S. plasma market has collected c.31.5 million liters
- The number of donor centers reached 601 by the end of 2016
- Increasing collections and recruiting qualified staff are main challenges



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## Plasma procurement strategy

#### Grifols plasma donor centers: presence and opportunities ahead

- Grifols is the world-leading company with 180 plasma donation centers in the U.S.
- Grifols' existing footprint outside the Western region aligns with the geographical distribution of the plasma collection market
- Grifols is expanding its presence in MO, NM, and SC
- Grifols has a much larger presence in UT, CA, South Texas, TN and IL than competitors<sup>(1)</sup>

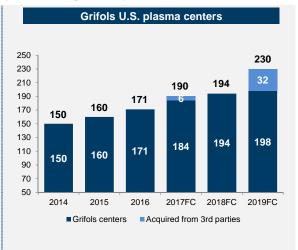


te: 1. Source: PPTA - The Plasma Protein Therapeutics Association data

## Plasma procurement strategy

Expanding our plasma capacity organically and inorganically

- 2-year acceleration plan to reach target of 225+ plasma donor centers by 2019
- Acquisition of 6 plasma centers in February 2017
- IBBI operates 25 plasma donor centers in 2017, in addition to blood centers and laboratory
- Over 100 projects through 2022 to spearhead new locations, expansions, major remodeling and relocations
- Objective of establishing operations in new regions to create clusters and attain collection efficiency
- All projects adhere to Grifols standards and comply with U.S. FDA and EMA requirements, among others

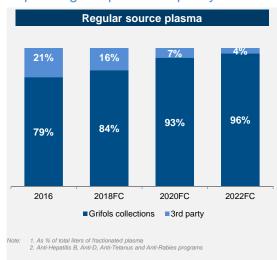


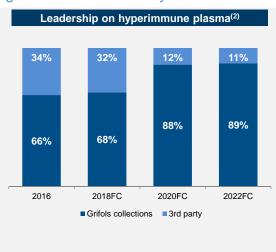
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## Plasma procurement strategy

Expanding our plasma capacity while working toward self-sufficiency<sup>(1)</sup>





### Plasma cost management

Continuous improvement of the entire value chain to promote cost containment

- Planned volume growth drives fixed cost leverage
- Maintain donor commitment compensation consistent with market
- Management of U.S. labor market consistent with the industry
- Process improvements and automations to further promote cost savings



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## Logistics: integrated plasma supply chain

New plasma warehouse multi-site system drives cost reductions

- 70% throughput increase with only a 25% increase in labor
- One shared database among multiple locations (LA, Clayton and Ireland)
- Grifols U.S. centers and warehouses currently operate with centralized release
- · Semi-automated plasma clearing lines
- Automated freezer, conveyors and pallet automatic retrieval systems
- Efficiencies and greater control of inventory management
- RFID<sup>(1)</sup> for crate count and maintenance
- Back-up systems to support emergency situations

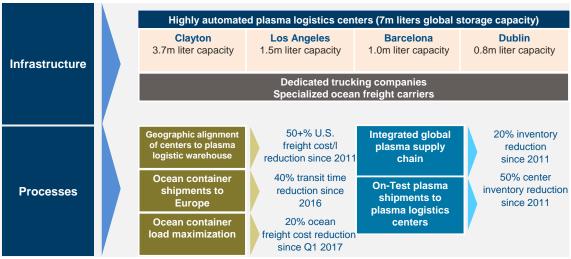
Note: 1. RFID: Radio-frequency identification





## Logistics: integrated plasma supply chain

Alignment across the supply chain drives cost reductions

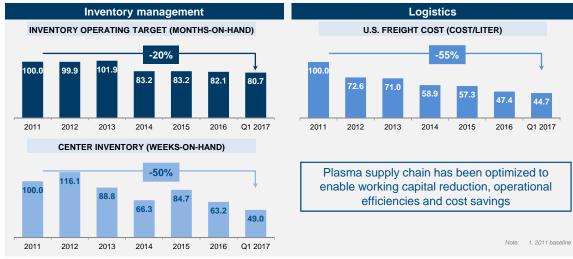


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## Logistics: integrated plasma supply chain

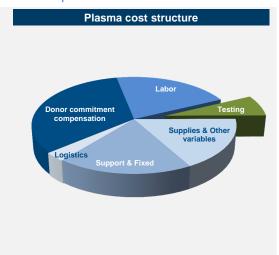
Inventory and logistics management drives cost reductions<sup>(1)</sup>



## Plasma cost management

Continuous improvement of the entire value chain to promote cost containment

- Planned volume growth drives fixed cost leverage
- Maintain donor commitment compensation consistent with market
- Management of U.S. labor market consistent with the industry
- Process improvements and automations to further promote cost savings



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## Plasma testing laboratories: capabilities and efficiency

Focus on reducing costs while maintaining high operational integrity

#### Plasma screening and Blood HCT/P - Organ Donor Screening

- Serology: anti-HCV, anti-HIV1/2, HBsAg, anti-HBc, anti-CMV, anti-EBV, anti-Toxo, anti-T Cruzi
- NAT (Grifols Diagnostic platform and back-up): HCV, HIV, HBV, pB19, HAV, WNV, ZIKA (IND(1))
- Immunohematology and Ancillary testing: ABO Grouping, Rh Typing, ALT, SPE, Total Protein, RPR (Syphilis), Hyperinmune testing (Anti-Tetanus, Anti-HB, Anti-Rabies)



## Plasma testing laboratories: capabilities and efficiency

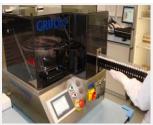
Focus on reducing costs while maintaining high operational integrity

The laboratory processes are designed for controlled high volume testing:

- · Combined testing capacity:
  - · Up to 17.5 million annual donations
  - · More than 147 million reported test results
- Planned expansion of the Austin, TX facility in the design phase:
  - Increase total laboratory size from 25,000 to 50,000 square feet
  - Increase testing capacity up to 20.5 million donations







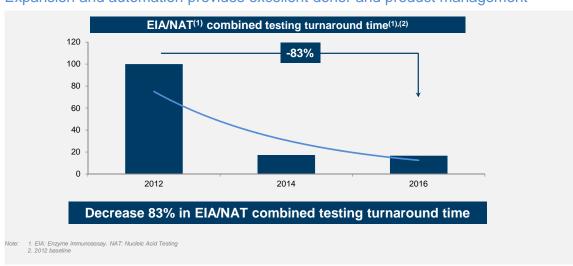


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## Plasma testing laboratories: capabilities and efficiency

Expansion and automation provides excellent donor and product management



#### Plasma cost management

Continuous improvement of the entire value chain to promote cost containment

- Planned volume growth drives fixed cost leverage
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#### **Grifols Academy of plasmapheresis: talent retention**

Commitment to continuous employee development

- 2016 classroom training:
  - 274 classes offered
  - 1,634 participants
  - 26,262 training hours
- 2016 online self-study:
  - 15,952 courses completed
- Academy campuses:
  - 12,000 square-foot expansion of the Glendale Academy completed in 2Q 2017
  - The Indianapolis and Glendale locations have 30,000 total square feet and capacity for 350 students
  - Auditorium with seating for 110
  - State-of-the-art audio and video systems
  - 6 satellite locations





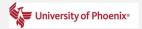
#### **Grifols Academy of plasmapheresis: partnerships**

Commitment to continuous employee development











Academy awarded accreditation 2014

38 degrees awarded 2016 and 2017

444 continuing education certificates issued in 2016

90 academy classes in articulation agreement

115 employee certifications

E-learning programs accredited 2016

100 employees enrolled in program

1,110 continuing education hours in 2016

UoP students convert to college credits

Academy offers preparation course & proctors examination

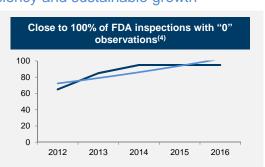
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#### **Regulatory inspections 2016**

Grifols high standards ensure operational efficiency and sustainable growth

Agency	Inspection days <sup>(2)</sup>	Admin actions <sup>(2)</sup>	
FDA <sup>(1)</sup>	331	0	
EU	262	0	
COLA/CLIA	80	0	
PPTA	58	0	
Other <sup>(3)</sup>	16	0	



A proven track record: no administrative actions or other regulatory issues promote cost savings across the value chain

- More than 90% of FDA inspections resulted in 0 observations
   Suspension, revocation, or loss of any license or certification; Warning Letter; imposed suspension of any regulated activity, etc.
   State environmental apercise, OSHA, ex-USEU Agencies
   Number of FDA inspections with "0 issues (Form-483)

## Driving efficiencies through organizational and operational improvements

#### **GRIFOLS**

#### **Operational improvements**

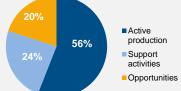
Driving significant productivity gains through organizational efficiency

#### **Process Standardization and Resource Management**

Improve operational performance by standardizing processes, managing production costs and implementing quality assurance best practices

Integrated Resource Management

- Staff
- Procedures
   Materials
  - Facilities
- Materials
- Equipment



#### "The right number of people with the right skills, at the right place and at the right time"

- Minimize donor wait times (30% reduction)
- Optimize equipment turnover (16% increase)
- Maximize staff utilization
- Increased donor & employee satisfaction
- Increased competitive advantage
- · Lower employee and donor turnover
- Increase skill level
- Greater competencies

#### **Operational improvements**

Driving significant productivity gains through organizational efficiency

#### Biometrics donor health history:

- · Self-administered questionnaires at center kiosks
- Biometric donor verification
- Encourages donor self-screening
- · Electronic donor history data retrieval
- Tracks and traces responses and deferrals
- · Promotes safety for donors and product
- Technology improves donor satisfaction and reduces labor costs
- · Automatic exchange of information with main systems



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#### **Operational improvements**

Driving significant productivity gains through organizational efficiency



#### **Process Modeling Tool:**

- · Emulates functionality of an operating site
- Assists operations in schedule and workflow creation
- Allows full simulation and proof of concept in process improvement



#### **Donor Center laboratory:**

- · Complete model of a working center
- Test bed for process improvement research and development
- Full testing of new technologies before deployment





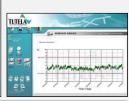
#### **Operational improvements**

Driving significant productivity gains through organizational efficiency

#### **Commitment to excellence**

- Automated temperature monitoring and management on freezing location
- Investigation of unexpected test results with potential retesting of individual unit
- Sample archive system for all collected plasma: health studies and IND
- PediGri®
- · RFID on supply chain







**GRIFOLS** 

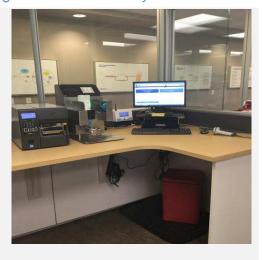
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#### **Operational improvements**

Driving significant productivity gains through organizational efficiency

## Plasma sampling machine and verification system (PBS/GSV)

- 100% automation of sample to unit verification
- Automated label printing per sample eliminating batch label set and potential for mislabeling
- Specifically designed for the plasma operations by Grifols Engineering and Grifols IT
- Removal of human error leads to superior product integrity



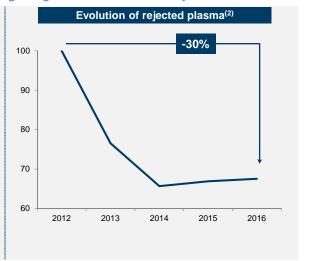
#### **Operational improvements**

Driving significant productivity gains through organizational efficiency

#### Plasma rejected and downgraded(1)

- Decrease of c.-32.5% in unsuitable plasma post collection
- Focus on process improvement, training and education of staff and donors
- Continuous improvements by monitoring of KPIs
- Quality program in place to attain further reductions in 2017-2018

Note: 1. Plasma available for further fractionation but with some markets restrictions

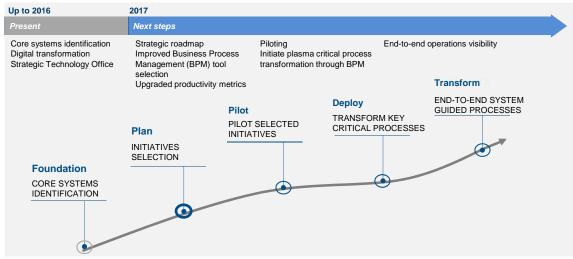


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#### **Operational improvements**

Looking ahead: plasma productivity journey



## Strategic roadmap

Solid, comprehensive strategy to increase productivity: 3 core pillars

Donor	<ul> <li>Recruit: CRM implementation. Collaborate with marketing on BI development campaigns</li> <li>Retain: Payment system. Bonus application and reminder notification system for donors</li> <li>Interact: Donor application development. Rewards and "Donation Rapid Pass" systems</li> </ul>
Center	<ul> <li>Operate: Flow and donor 360 dashboards. Mobility. Queue management and resources planning</li> <li>Comply: Plasma quality database. System traceability. Quality metrics and audit trail</li> <li>Collect: Continue to reduce donor door-to-door flow time. System-driven operations</li> </ul>
Corporate	<ul> <li>Govern: Right information, at the right place and at the right time. BPM systems integration. Big data</li> <li>Monitor: End-to-end operations visibility</li> <li>Support: Enable full corporate-center interaction via Grifols collaboration tools</li> </ul>

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Key takeaways
Continuous improvement of the entire value chain to promote cost containment

#### **Key takeaways**

Continuous improvement of the entire value chain to promote cost containment

- Grifols strategy is built on a solid foundation of quality and safety
- Grifols is committed to maintaining its leadership through a sustainable growth in plasma collection by promoting a fully integrated and balanced plasma procurement organization
- Grifols is investing in new centers to accelerate our 2-year goal of reaching 225+ by 2019; innovation and operational efficiency improvements
- · Grifols is driving continuous improvement of the entire value chain to promote cost containment
- Operational efficiency improvements include continuously upgrade our plasma centers; excellent turnaround results and flexibility in testing laboratories; achieve efficient inventory management, deliver high-impact education and training opportunities for employees; and positive medical outcomes with outstanding quality
- Grifols multifaceted approach will be a competitive advantage now and in the future

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## PRIDE SAFETY

# Bioscience commercial strategies Maintaining strong sustainable growth

Lafmin Morgan
President of Bioscience Commercial



EXCELLENCE
TEAMWORK
INNOVATION &
IMPROVEMENT

#### **Bioscience commercial strategy**

Strategies to deliver sustainable growth

Sustaining market leadership

- Grifols Bioscience has sustained growth<sup>(1)</sup> of approximately 6% or more over the last 8 quarters
- Grifols has successfully built leading market positions for the four key proteins
- Grifols continues to consolidate a leading market position in the U.S., the largest market for plasma proteins

Expanding total market

- Grifols is spearheading efforts to expand markets through promotional activities aimed at supporting appropriate diagnosis and treatment
- Grifols leads the industry in plasma research investments aimed at attaining approval for new indications and formulations of existing proteins

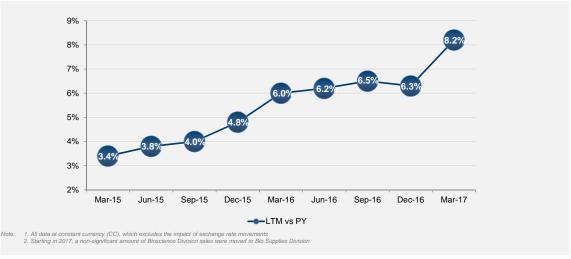
Geographic expansion

- · Grifols Bioscience will continue its global expansion
- In 2016, noteworthy inroads were made in Australia, France and India

Note: 1. At constant currency (CC), which excludes the impact of exchange rate movements

#### **Bioscience commercial strategy**

Bioscience revenue growth<sup>(1),(2)</sup> has consistently accelerated over the last 8 quarters



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#### **Bioscience product strategy**

Focused product strategies to deliver continued growth



#### **Bioscience product strategy**

Focused product strategies to deliver continued growth

**PdFactor VIII** 

- Grifols has demonstrated the benefits of pdFVIII in the hemophilia market
- Grifols is focused on market segments that will benefit from pdFVIII
- Grifols has a strong presence in key tender and emerging markets

Speciality plasma products

- Grifols leverages synergies in promoting a portfolio of hypermunes, along with tetanus and diphtheria (Td) vaccine
- Thrombate® III continues to lead the antithrombin III market
- Grifols is making progress with the Biologics License Application (BLA) and EMA submissions for its fibrin sealant product

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#### Grifols plasma derived products market summary

Growth fundamentals remain strong

• Grifols sustains a leading position<sup>(1)</sup> within our core business of plasma-derived therapies

	Grifols global market share	Grifols global position	Grifols U.S. market share	Grifols U.S. market position
IVIG	23%	#1	32%	#1
Alpha-1	68%	#1	64%	#1
Albumin	17%	#2	26%	#2
PdFVIII	20%	#1	54%	#1

- Per capita utilization and diagnosis are growing for IG, albumin and alpha-1
- Market growth and geographic expansion strategies continue to deliver results
- · Grifols continues investing in the Bioscience Division to sustain growth

Note: 1. Grifols internal provisional data, 2016

#### Plasma proteins market summary

Plasma proteins market has demonstrated consistent growth

- · Sustained growth continues, while opportunities to expand use remain strong
- Grifols maintains a leadership position as:
  - #1 in 3 of the major proteins
  - One of the leading companies in the overall plasma-derived market
- IG market continues to show strong growth across the major markets
- Robust growth of albumin continues in China and other markets
- Alpha-1 market growth continues in North America, Europe and other markets
- New evidence of unique benefits of pdFVIII, which has both clinical and economic implications

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**Grifols Immunoglobulin** 

#### Top 10 countries in per capita<sup>(1)(2)</sup> utilization, 2012 vs. 2015

200

150

100

50

Strong momentum in IG per capita utilization

- Top markets in per capita utilization continue to grow at brisk rates
- · Growth seen consistently across markets
- · Aging demographics fuel IG growth
- Growth continues in 2016:

U.S.: +9%<sup>(3)</sup> Germany: +8%(3) Spain: +11%<sup>(4)</sup> England: +8%(5)

- g/1,000 inhabitants-year
   Source: Srifols global plasma industry database per capita difference explanation adapted from MRB report
   Source: PPTA The Plasma Protein Therapeutics Association data
   Source: PPTA The Plasma Protein Therapeutics Association data and internal data
   Source: MRS National Health Service

SWITTERLAND

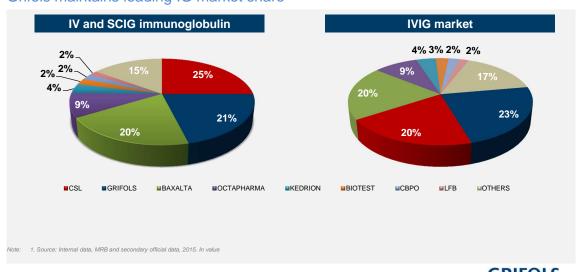
■2012 ■2015



#### **GRIFOLS**

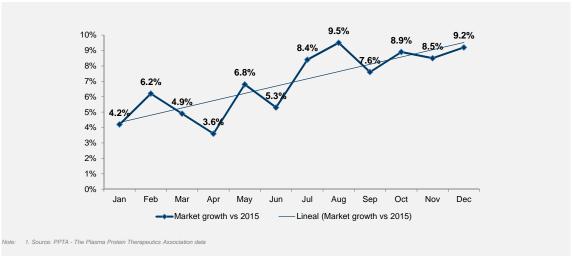
#### IG market shares<sup>(1)</sup>

Grifols maintains leading IG market share



#### 2016 U.S. IG market performance<sup>(1)</sup>

Accelerated growth in the mid to high single digits

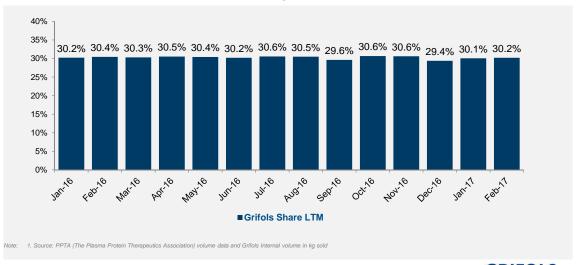


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#### U.S. IG market performance<sup>(1)</sup>

Grifols IG share in the U.S. remains strong - Data for LTM



#### **Grifols IG continues to strengthen its leadership position**

Gamunex®-C is the leading IG treatment in CIDP

- CIDP focus: accurate recognition, confirmation and treatment
  - Gamunex®-C is the #1 prescribed IG therapy for CIDP
  - First-ever CIDP fellows ambassador program
  - Grifols IG representatives complete the AANEM CIDP Knowledge Assessment (94% of IG representatives passed)

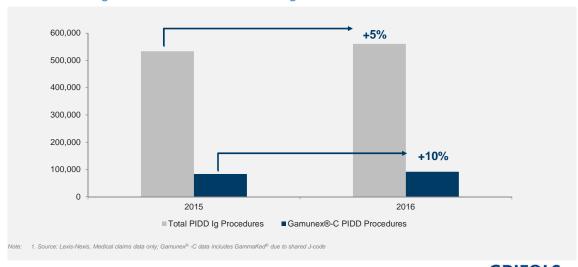


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## **Grifols IG continues to strengthen its leadership position**

Gamunex®-C grew more than other leading IVIG in PIDD(1)



#### Grifols IG continues to strengthen its leadership position

Grifols IG growth sustained despite 10 years of SCIG(1)

• 92% of all grams in the global IG market were IV

87% of growth in the global IG market derived from IV

• 90% of grams in the U.S. were IVIG and 10% were SCIG

Most growth in the U.S. market was driven by IVIG

• Grifols is consolidating a long-term leadership position

Grifols is preparing for the future launch of a 20% SCIG product

Note: 1. Source: Internal data, MRB and secondary official data, 2015

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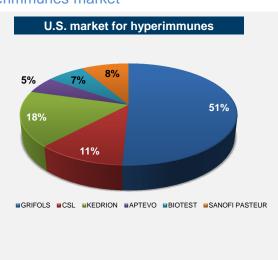
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#### **Grifols hyperinmunes market**(1)

Grifols is the market leader in the U.S. hyperimmunes market

#### A leading and differentiated portfolio

- · Market leader in the rabies market
- GammaSTAN® is only treatment for postexposure Hep A & measles
- HyperHepB® is the only immunoglobulin specifically designed for pediatric use
- Grifols is the only company that offers products for passive and active tetanus immunity



Note: 1. Source: Internal data, 2016

#### **Key takeaways**

Grifols Immunoglobulin portfolio is the cornerstone of the division

- Grifols is the IVIG leader and continues to build on its leadership position
- Grifols is investing to grow markets by focusing efforts on diagnosis and treatment
- Grifols is making investments in new indications such as myasthenia gravis
- Grifols continues to grow in Primary Immune Deficiency (PIDD) market
- Grifols is investing to expand its SCIG offering to include a 20% treatment
- Grifols is the market leader in the hyperimmunes market

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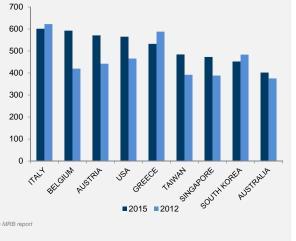
**Grifols Albumin** 

#### Top 10 countries in per capita<sup>(1)(2)</sup> utilization, 2012 vs. 2015

Momentum continues in per capita utilization of albumin

- · Albumin growth continues in most markets
- The world's largest market (China) is not among top 10 by per capita consumption
- · New clinical data will fuel future growth
- Growth continues in 2016:

China: +18%(3) Germany: +11%(4)



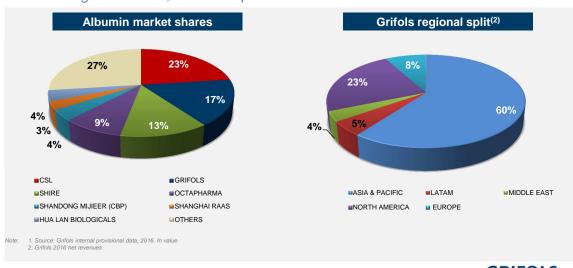
g/1,000 inhabitants-year
 Source: Grifols global plasma industry database per capita difference explanation adapted from MRB report
 Source: Imported official data
 Source: PPTA - The Plasma Protein Therapeutics Association data

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#### Albumin market shares<sup>(1)</sup>

Grifols is a global leader, with solid positions in China and the U.S.



#### ANSWER clinical trial results presented at EASL(1)

New clinical data supports future growth of albumin

The rate of survival was significantly higher in patients receiving human albumin plus to standard therapy, compared with those receiving standard therapy only. Treatment with human albumin reduced the risk of death by 38%. Statistically significant benefits of administering human albumin rather than standard therapy alone were demonstrated for the management of ascites, complications of cirrhosis, quality of life and hospital admissions.

"The reduction in mortality observed in the albumin-treated controlled study is a novel and important piece of information. Based on this data, weekly administration of albumin should be considered in patients with cirrhosis and ascites to prevent life-threatening complications," said Prof Annalisa Berzigotti, University Clinic for Visceral Surgery and Medicine, University of Berne, Switzerland, and EASL Governing Board Member.

Note: 1. European Association for the Study of the Liver. Public Release: 22-Apr-2017. Highlight & bold text added for emphasis

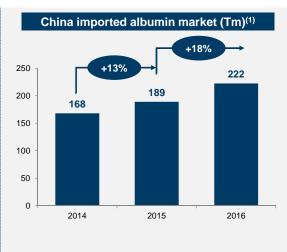
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#### China albumin market

Grifols is growing faster than the market in China

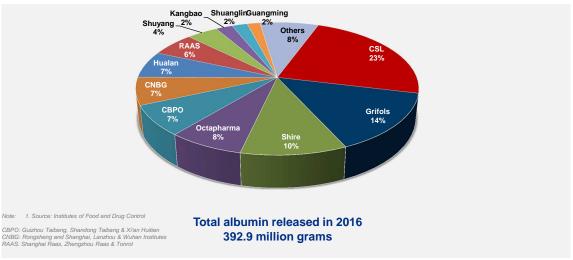
- China continued to achieve double-digit growth<sup>(1)</sup>
- Grifols sales in the country grew well above the market<sup>(2)</sup>



Source: Imported official data
 Grifols 2016 net revenues

#### China albumin market

In 2016 Grifols gained the #2 albumin market share<sup>(1)</sup>



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#### China albumin market

Grifols performance surpassed China's growth rate in 2016

- In 2016, Grifols' sales grew by 32% in China, making Grifols a significant contributor to China's growth
- In 2016, Grifols gained the no. 2 position in the China albumin market, with 14% market share
- Grifols is actively pursuing further expansion strategies in the Chinese market to support the continued growth of albumin

#### **Key takeaways**

Albumin continues to be a driver of Bioscience growth

- Grifols is well positioned in the market
- Growth driven by the U.S. and China, where Grifols is expected to grow above the market
- Developing countries are expected to grow at double-digit rates in the coming years
- Grifols continues to invest in albumin:
  - New indications: Alzheimer, cirrhosis, acute-on chronic liver failure and ALS<sup>(1)</sup>
  - Field promotion in key markets
  - New packaging: albumin in bags
  - Expanded manufacturing capacity
- New data will reinforce albumin benefits beyond fluid management (ANSWER)

Note: 1. ALS: Amyotrophic lateral sclerosis

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**Grifols Alpha-1 Antitrypsin** 

#### Alpha-1 antitrypsin market shares(1)

Grifols is the leader in the worldwide alpha-1 business

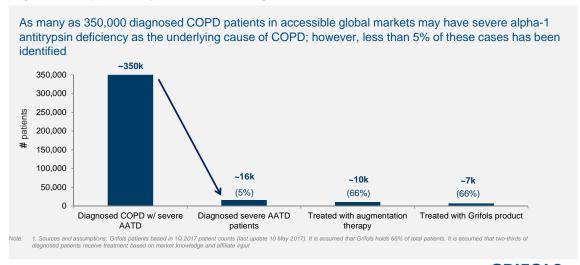


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#### **Alpha-1 potential market**

Significant opportunity to increase diagnosis



#### Grifols is the clear leader in alpha-1

On-going commitment to patient diagnosis and differentiation of Prolastin®-C

- Continued commitment of Grifols alpha-1 national testing program, with more than 500,000 patients tested
- Patient management put at HCP's fingertips through diagnosis and treatment portals, providing HCP access to secure patient-level information and electronic prescribing

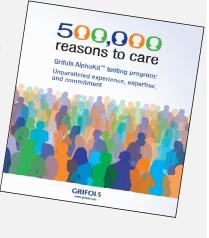
MyAlphaKit.com and MyProlastinDirect.com





 Comprehensive patient support every step of the way with the assist program: first promotional co-pay program





**GRIFOLS** 

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## Grifols is the clear leader in alpha-1

Strengthening alpha-1 leadership



#### What about the competition?

Thanks to a unique business model and excellent execution, Grifols continues to strengthen its alpha-1 business, including markets with new competitors like Germany, Spain and Italy



#### **Key takeaways**

Alpha-1 extends contribution to balance the liter

- Grifols continues to build on its leadership position in the alpha-1 market, with 68%<sup>(1)</sup> global share which is increasing revenue efficiency per liter
- Significant opportunities worldwide in alpha-1 patient identification and treatment, with new and underdeveloped markets a core part of our growth strategy
- Our model of driving patient identification through dedicated pulmonary teams and disease management for alpha-1 patients has proven successful in North America, Germany, Canada and Spain. We plan to implement this strategy in new markets

Note: 1. Source: Grifols internal provisional data, 2016. In value

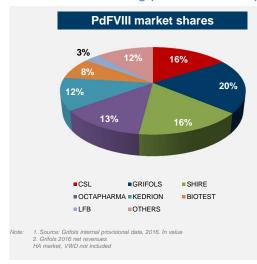
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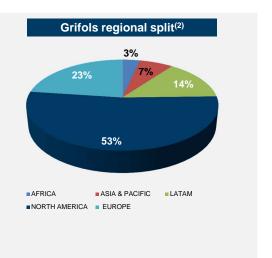
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**Grifols pdFVIII** 

#### PdFVIII market shares(1)

Grifols holds leading pdFVIII market position





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#### **SIPPET study results**

Greater opportunities for pdFVIII therapies

#### SIPPET awareness campaign:

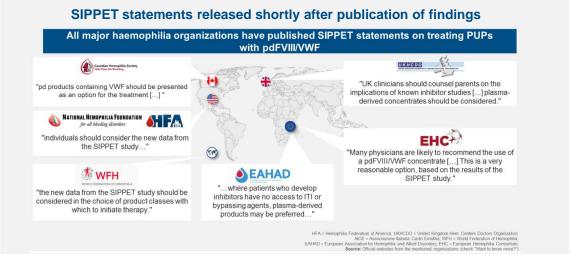
- Published in May 2016, SIPPET results are considered scientifically compelling:
  - Major hemophilia organizations have opened the door to treat PUPs with pdFVIII/VWF
  - More than 35 articles have cited SIPPET results and its implications
  - SIPPET study has spotlighted pdFVIII as a valid treatment option
- SIPPET study has created a halo effect for Grifols' pdFVIII beyond PUPs





#### **SIPPET study results**

Leading organizations have modified their recommendations

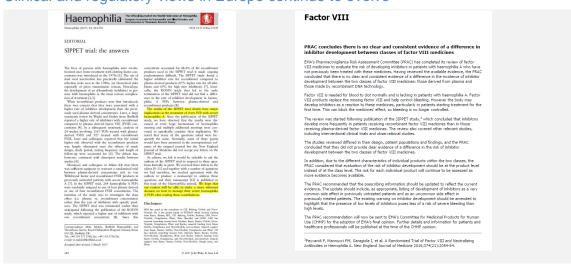


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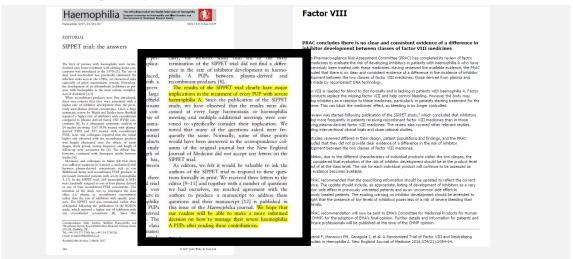
#### **SIPPET study results**

Clinical and regulatory views in Europe continue to evolve



#### **SIPPET study results**

Clinical and regulatory views in Europe continue to evolve



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#### **Key takeaways**

Grifols pdFVIII represents significant opportunities ahead

- Grifols maintains a leading position in the pdFVIII market with 20%<sup>(1)</sup> global share and volume increase above the market
- In the U.S., Grifols pdFVIII is growing faster than the market thanks to the diffusion of positive results regarding the use of natural FVIII/VWF complex to treat patients who developed inhibitors
- SIPPET results have been considered scientifically compelling and put pdFVIII back in the conversation as a treatment option
- SIPPET study has created a halo effect for Grifols pdFVIII beyond previously untreated patients (PUPs), with 2017 promotional campaign building on 2016 momentum
- Emerging countries are a relevant growth source as their budget allocations for healthcare resources increase

Note: 1. Source: Grifols internal provisional data, 2016

# Key Bioscience takeaways Commercial leadership will continue to deliver sustainable growth

#### **GRIFOLS**

## **Key Bioscience takeaways**

Commercial leadership will continue to deliver sustainable growth

#### Sustaining market leadership

- Grifols Bioscience has sustained growth<sup>(1)</sup> of approximately 6% or more over the last 8 quarters
- Grifols has successfully built leading market positions for the four key proteins
- Grifols continues to consolidate a leading market position in the U.S., the largest market for plasma proteins

## Expanding total market

- Grifols is spearheading efforts to expand markets through promotional activities aimed at supporting appropriate diagnosis and treatment
- Grifols leads the industry in plasma research investments aimed at attaining approval for new indications and formulations of existing proteins

## Geographic expansion

- Grifols Bioscience will continue its global expansion
- In 2016, noteworthy inroads were made in Australia, France and India

Note: 1. At constant currency (CC), which excludes the impact f exchange rate movements





## PRIDE SAFETY

# **Bioscience Capacity Expansion Plan Solid headway to keep pace with growing demand**

Daniel Fleta
Grifols Engineering Managing Director

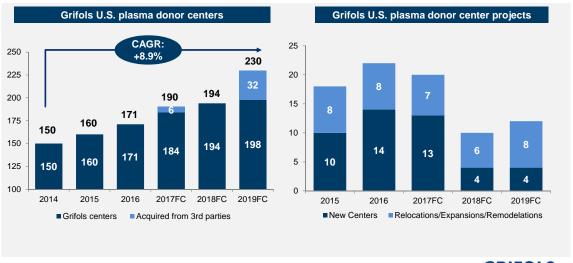


TEAMWORK
INNOVATION &
IMPROVEMENT

Plasma procurement Expanding plasma collection capacity

#### Plasma procurement

Expanding collection capacity to meet growing demand

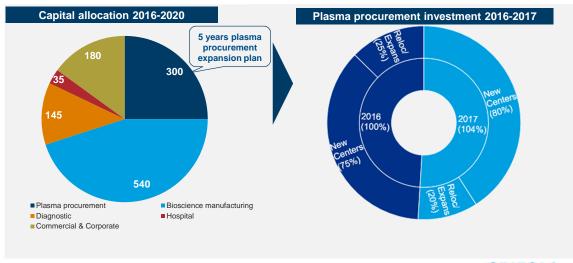


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#### Plasma procurement

Expanding collection capacity to meet growing demand

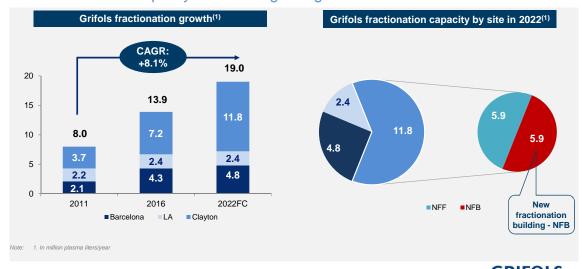


## Plasma fractionation Increasing global capacity up to 19m liter/year

#### **GRIFOLS**

#### **Plasma fractionation**

Investment in new capacity to address growing demand



#### **New Fractionation Building (NFB) project at Clayton (NC)**

Engineered for maximum efficiency and flexibility

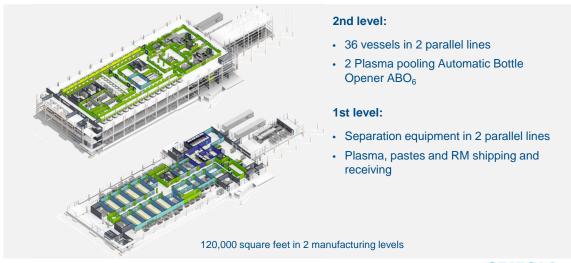


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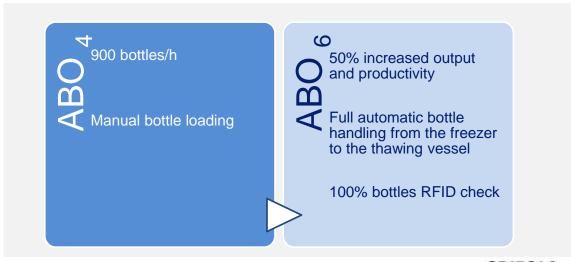
#### **New Fractionation Building (NFB) project at Clayton (NC)**

Engineered for maximum efficiency and flexibility



#### Automatic plasma Bottle Opener (ABO<sub>6</sub>)

Enhancing plasma-pooling efficiency and enabling full real-time traceability



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## Automatic plasma Bottle Opener (ABO<sub>6</sub>)

Closing the plasma pooling automation loop





New automatic bottles handling

#### Automatic plasma Bottle Opener (ABO<sub>6</sub>)

Twin robots to double productivity

ABO bottle discharge



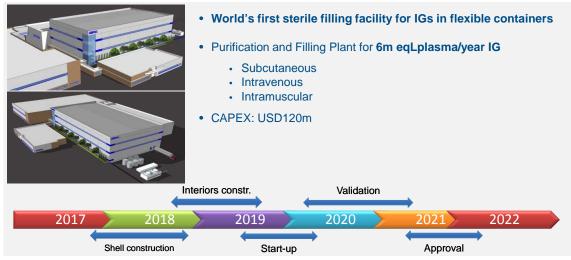
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Protein purification and Fill-Finish
Balanced growth to bolster fractionation expansion

#### New IG purification and filling facility at Clayton

First-in-class facility for the next generation of IGs



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## New IG purification and filling facility at Clayton

First-in-class facility for the next generation of IGs



#### New albumin purification and filling facility in Dublin

State-of-the-art facility for global supply of the albumin in a flexible container

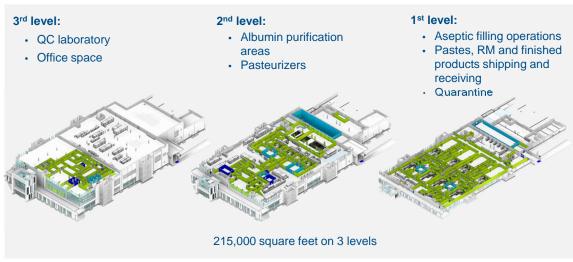


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#### New albumin purification and filling facility in Dublin

State-of-the-art facility for global supply of the albumin in a flexible container



## Alpha-1 purification and filling facility in Barcelona

New plant ready to provide continued support of alpha-1 contribution



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## Alpha-1 purification and filling facility in Barcelona

New plant ready to provide continued support of alpha-1 contribution



## Alpha-1 purification and filling facility in Barcelona

New plant ready to provide continued support of alpha-1 contribution

Aseptic processing area









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## Immunoglobulin 2<sup>nd</sup> purification train in Los Angeles

Leveraging capabilities for maximum efficiency



## Immunoglobulin 2<sup>nd</sup> purification train in Los Angeles

Leveraging capabilities for maximum efficiency







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**GRIFOLS** 

## New flexible container aseptic filling line in Los Angeles

Broadening the portfolio with unique technology



- Sterile filling of albumin 5%, 20% and 25%
- Flexible container volume range: 50, 100, 250 and 500 mL
- Groundbreaking design for the sterile filling of bags for biological products leveraging 30+ years experience with the Grifols Sterile Filling GSF® Technology



## New flexible container aseptic filling line in Los Angeles

Broadening the portfolio with unique technology



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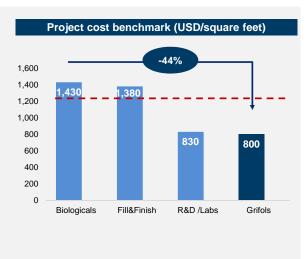
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## Capital expenditures benchmarking<sup>(1)</sup> across the industry

Competitively advantaged in capital investment

Sector	Global average regular project costs (USD/square feet)				
Biologicals Mfg.	1,430				
Fill & Finish	1,380				
R&D / Labs	830				
Grifols	800				

1. Source data: Facility of the Year Awards (2007-2016). ISPE Pharmaceutical Engineering



## Key takeaways Capital expenditure discipline focused on creating value

**GRIFOLS** 

## **Key takeaways**

Capital expenditure discipline focused on creating value

- Bioscience capacity expansion plan on track and outperforming plans
- The capacity expansion plan and the investments execution strategy follow Grifols holistic approach for plasma fractionation
- Proven advantage in project management; industry-leading capital efficiency
- The new facilities expands current capacity while offering additional operations flexibility
- Unique innovation forms the cornerstone of the design of the new facilities, devised to develop new products and optimize processes to enhance efficiency and product safety
- Grifols capital investments costs for facilities are significantly below the average pharmaceutical industry







Hospital

Expansion through integrated solutions

Peter Allen
President of Hospital Commercial



PRIDE SAFETY EFFORT

EXCELLENCE
TEAMWORK
INNOVATION &
IMPROVEMENT

Sustain mid-single digit growth in OUS markets while accelerating growth in U.S. through organic and acquisition strategies

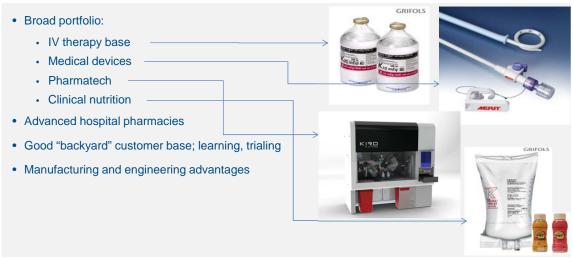
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Last year we said...

## Grifols maintains a strong position and reputation in Spain

Strong legacy business - Spain



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**GRIFOLS** 

## Grifols poised for penetration in U.S. market

U.S. market drivers align with Grifols strengths

- Novel Pharmatech portfolio alignment of trends
  - Regulatory specific
  - · Personalized medicine individualized
  - Accountability care organization outcomes

automation; process and compliance

· Opportunity for end to end compounding portfolio: control, efficiency, data



## Strategic considerations inform future; U.S. focus

Methodical pursuit of a successful strategy

- · Current market position
  - Spain
  - United States
  - ROW/LATAM
- Customer/Technology advising the future
- Gap assessment
- Revised strategy emphasis on U.S. market



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This year we now know...

## Base business poised to match mid-single digit market growth

Iberia and LATAM are 90% of sales revenue; product mix

- Execute on EBIT- improving growth strategies
  - · Revitalize Nutrition portfolio sales
  - · Gain new Medical devices distribution
  - · Optimize IV therapy and Pharmatech markets
- Implement plant utilization tactics
  - Increase volume
  - · Leverage plant footprints for optimal utilization



**GRIFOLS** 

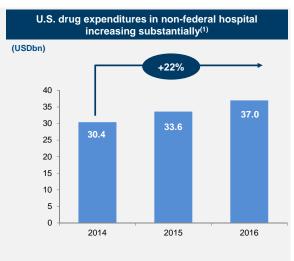
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## Pharmatech portfolio with software addition underpins growth

Strategy poised to meet growing market needs and future demands

- Pharmacy market trends worldwide will demand changes in technology and information
- Current solutions are inadequate; current providers are beholden to **legacy technology**
- OUS markets strapped for access to capital
- Distinguishing Grifols devices through smart integration (non-capital intensive)
- Expand from cleanroom centric to pharmacy operations and adjacencies
- Design systems for OUS market

Note: 1. Source: American Journal of Health-System Pharmacy



## Industry drivers impacting hospital & compounding pharmacies

Global pharmacy market trends will continue to demand changes in tech. & info

## Cost management pressures / Economic advantages

- Consolidation
- Technology leverage
- Evolving decision-maker and consumer demographics
- Accountability care

## Regulatory / Safety – Intensifying

- Personalized medicine
- Regulation authorities expanding

#### **Data Ecosystem**

- Inter-connectivity
- Outcomes data justifying costs (drugs!)
- Controls

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**GRIFOLS** 

## Clear path to strengthening portfolio for growth

A robust strategy dynamically positions the division

Enhance current portfolio

- Kiro device and implementation improvements
- Pharmatech integration to software platform
- Launch new nutrition products and expand markets
- · Enhance profit models with services

Expanding into systems

- Design platform to meet current and future market needs
- · Expand sales capabilities with dedicated force
- · Establish service and support infrastructure

Optimize LVP<sup>(1)</sup> business

- Organize manufacturing for optimal production
- · Rationalize portfolio for strategic and production benefit
- Secure Bioscience advantages through business continuity access

Note: 1. LVP: Large volume parenteral

## Just gained U.S. IV solution market access

An attractive and immediate growth opportunity



- FDA approved Grifols manufactured saline for export to U.S.
- Establishing self-sufficiency for Grifols Plasma Operations
- Engaging distribution channel for U.S. market (excluding GPO)
- Optimizing plant capacity
- · Evaluating additional export opportunities

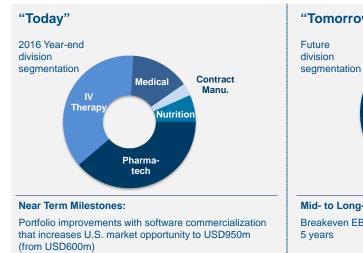


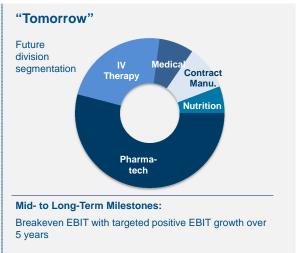
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## Plan strengthens division and sets up escalating growth

Building a financial track record







# Key takeaways Strategy poised to meet growing market needs and future demands

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## **Key takeaways**

Strategy poised to meet growing market needs and future demands

- Leverage saline approval to successfully enter into the U.S. market
- Iberia and LATAM leverage portfolio strengths for mid-single digit growth
- Expand our systems capabilities to underpin smart device benefits
- Build / acquire software infrastructure for support and service
- Reconfigure all device software for thorough integration
- Optimize LVP manufacturing and logistics for Bioscience continuity benefits
- The Hospital Division is well positioned to regain growth and profitability



# **Diagnostic**Driving profitable growth

**Carsten Schroeder President of Diagnostic Commercial** 



PRIDE
SAFETY
EFFORT
COMMITMENT
EXCELLENCE
TEAMWORK
INNOVATION &
IMPROVEMENT

## The global leader in transfusion medicine

Building a Specialty Diagnostics portfolio



#### With a clear mandate...

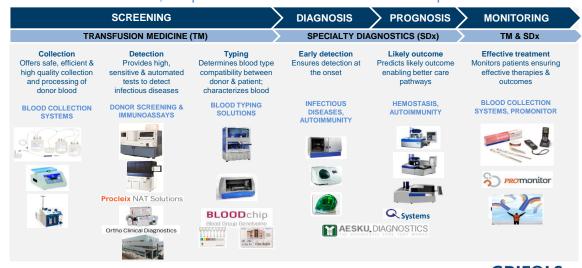
Build a global diagnostics company
focused on select, high-value markets,
providing innovative solutions
to ensure the safety of the blood and plasma supply,
detect human diseases and monitor therapies

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**GRIFOLS** 

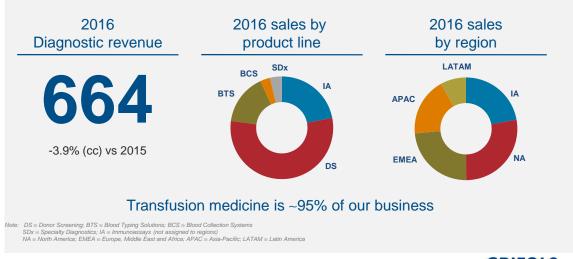
## Our product portfolio spans the healthcare continuum

We serve blood banks, hospital-based transfusion services and plasma



## Diagnostic had EUR 664m in net revenues in 2016

Donor screening, immunoassays and immunohematology are our core businesses



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**GRIFOLS** 

## Diagnostic had EUR 171m in sales in 1Q 2017

Delivered a growth of 3.3% vs. 1Q 2016



## Global manufacturing footprint to serve worldwide customers

We continue to expand our production capacity to enable growth

EMERYVILLE California - USA	Manufacture of antigens for diagnostic tests Expansion: Project Horizon	EMERYVILLE California - USA
SAN DIEGO California - USA	Production of Procleix® NAT tests Acquired from Hologic	CURITIBA Braziil
CURITIBA Brazil	New factory for production of blood collection systems	Side of the second seco
PARETS DEL VALLES Barcelona - Spain	Instruments and IVD reagents for immunohematology, autoimmunity and hemostasis	
DÜDINGEN Switzerland	Production of tests for the rapid identification of blood type (MDmulticard®), gel-technology test cards (DG GEL®) and reagent RBC	SAN DIEGO California - USA
MELBOURNE Australia	Production of gel-technology test cards (DG GEL®) and red blood cells	
DERIO Vizcaya - Spain	Design and manufacture of molecular biology tests and immunoassays	CONT.
MURCIA Spain	Production of intravenous serums in flexible packaging and blood collection systems	The state of the s

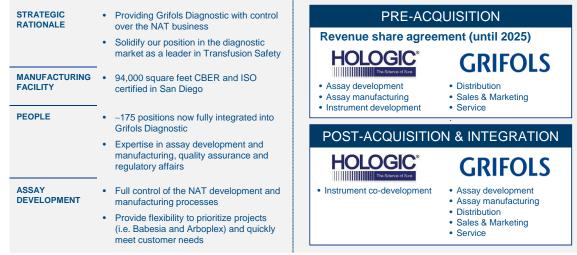
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Donor screening
Committed to the blood safety and plasma supply

## Acquisition of NAT blood donor screening unit

Strengthening our leading position in transfusion medicine

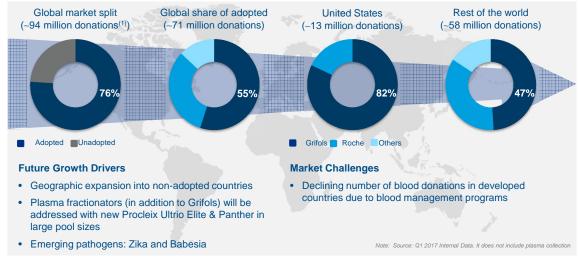


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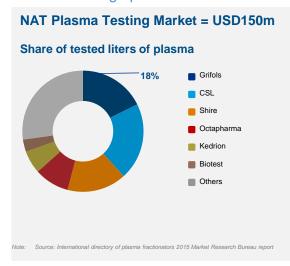
## The global leader in NAT blood donor screening

Despite market challenges there is potential for growth



## NAT Plasma donor screening represents a growth opportunity

Panther® in large pool sizes submitted to FDA for approval



#### **Market Outlook**

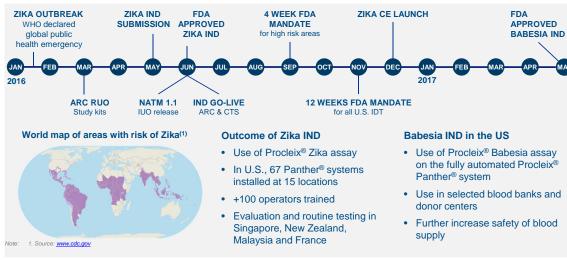
- "Big 6" commercial fractionators represent ~75% of the source plasma market
- Plasma fractionation (and plasma testing)
  market is expected to continue to grow, driven
  by an increase in global demand for plasma
  therapeutics
- Due to whole blood volume contraction in the U.S. and E.U., blood banks are looking to enter the recovered plasma testing market
- APAC is the fastest growing region in the plasma industry and represents an area of growth

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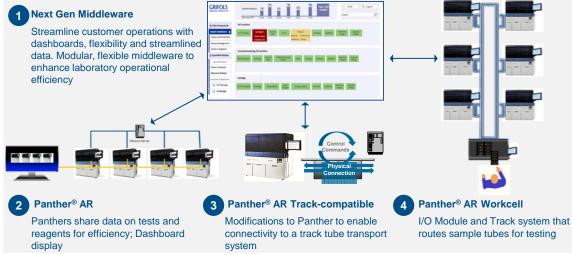
## Grifols delivered in response to the 2016 Zika outbreak

Recently started screening for Babesia under IND in the U.S.



## Automation will further support our NAT portfolio

Strengthening our NAT portfolio



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**GRIFOLS** 

Immunoassays Worldwide market leader in hep/retro

## Leader in antigen supply for immunoassays

Worldwide market leader in hep/retro immunoassays antigens

Grifols supplies HCV / HIV antigens to top immunoassay manufacturers covering more than 80% of the immunoassay market Main Grifols customers: Ortho Clinical Diagnostics Abbott SIEMENS A Promise for Life

Immunoassay market value = USD1.0bn<sup>(1)</sup>

Note: Source: In Vitro Diagnostic Market Segment Review 2013-2014 and 2019 Forecast Ad hoc report from Boston Biomedical Consultants, Inc., 2015 and internal estimatic 1. It includes whole blood and source plasma

#### Profit share agreement (until 2039)

## GRIFO S Ortho Clinical Diagnostics

- HCV & HIV patents
- Antigen research, manufacturing & supply
- Assay research support
- Assay development & manufacturing Instrument development &
- manufacturing Product

commercialization

#### **Future Growth Drivers**

- New HIV Combo for OCD's VITROS platform
- Expand customer base for antigens
- Expand portfolio of antigens

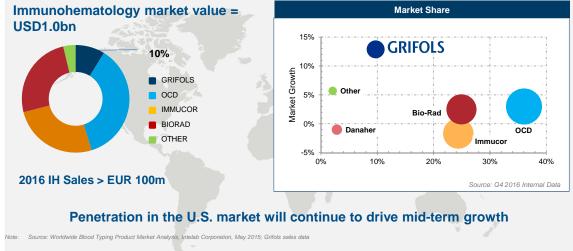
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**Immunohematology** Fastest growing player in blood typing solutions

## **Grifols is the fastest growing player in Immunohematology**

We continue to drive double-digit growth



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#### U.S. IH - Over 100 customer sites under contract

Our investments in sales, marketing and service are paying off



## A complete portfolio of instruments, gel cards, RBC and reagents

Continuously improving our competitive portfolio of products



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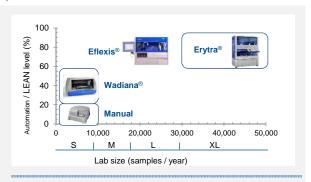
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## Erytra® Eflexis® being launched in CE-marked countries

Fully automated, flexible, mid-sized analyzer

The **Erytra® Eflexis®** performs pre-transfusion compatibility testing using DG Gel® technology with a smart and compact design offering intuitive operations



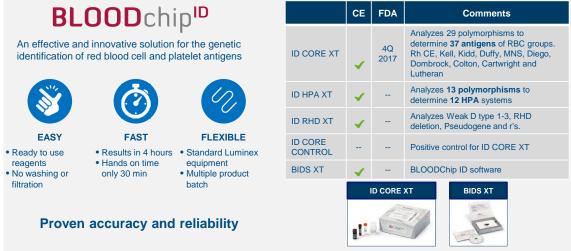


#### Upcoming portfolio updates:

- New version of Erytra® software with improved features
- New middleware solutions worldwide
- New reagent blood cells and antisera to support U.S. expansion

## Completing our portfolio of BLOODChip® ID products

FDA approval of ID CORE XT expected by 4Q 2017



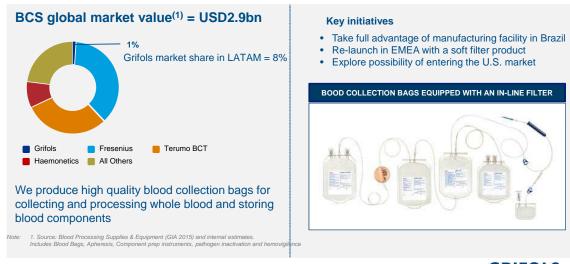
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Blood Collection Systems
Leveraging new manufacturing capabilities

## Leverage new manufacturing facilities in Spain and Brazil

Strengthen our position in LATAM and expansion plans in EMEA



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**GRIFOLS** 

Hemostasis
Global exclusive distribution agreement

#### **Hemostasis**

Grifols and Beckman Coulter enter into an exclusive distribution agreement

- Early June, Grifols has reached an exclusive worldwide agreement with Beckman Coulter for the global distribution of Grifols' hemostasis instruments, reagents and consumables
- The agreement has an initial term of 15 years and it may be extended for up to five additional years
- The agreement leverages Grifols' strength in manufacturing reliable instruments and reagents with that of Beckman Coulter's commercial strength
- Hemostasis is a USD2.4bn market growing at approximately 7% annually
- We have an attractive scalable portfolio of hemostasis analyzers,
   Q system, and a broad catalogue of reagents for routine and special techniques









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Specialty Diagnostics
Building our portfolio in Specialty Diagnostics

## **Building our portfolio in Specialty Diagnostic**

Making progress in all product lines

- **PROMONITOR** We continue to expand our portfolio, to other biological drugs and biosimilars, single dilution tests and a point of care solution
  - Dedicated sales force in Europe

#### **CLIA US**

- The Center of Excellence for Immunohematology now offers molecular and serological tests
- Launched new lab services for biological drug monitoring

#### **AESKU**

- Helios system obtained FDA approval in 2016. Commercial launch in the U.S. ongoing
- Full pipeline of additional tests awaiting registration in the U.S.

PROMONITOR® ELISA test offers key information about drug bioavailability and immunogenicity in patients prescribed with biological therapy for the treatment of chronic inflammatory diseases and other indications.



	2 D	il.	1 Dil.		
CE-marked references	D L	A D A	D L	A D A	
Infliximab	✓	✓	✓	✓	
Adalimumab	✓	✓	✓	✓	
Etanercept	✓	✓	✓	✓	
Rittuximab	✓	$\checkmark$	✓	✓	
Golimumab	✓	✓	✓	✓	



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## **Building our portfolio in Specialty Diagnostic**

#### Making progress in all product lines

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#### AFSKU

- Helios system obtained FDA approval in 2016. Commercial launch in the U.S. ongoing
- Full pipeline of additional tests awaiting registration in the U.S.



#### The IH center offers

- A broad variety of molecular and serology tests
- Several courses and workshops, including transfusion science educational courses (TSECs), webinars and hands-on workshops

TDMonitor Tests	DL	ADA
Infliximab	<b>4</b>	✓
Adalimumab	✓	✓
Vedolizumab	<b>~</b>	✓ .

#### The American

Gastroenterological Association (AGA) recommends the use of therapeutic drug monitoring for inflammatory bowel disease management in non-responding patients in its latest guideline draft

#### Tests also available

- Familial Hypercholesterolemia (FH)
- Araclon AB assay for AMBAR study
- ApoE assay for Alzheimer prognosis

## **Building our portfolio in Specialty Diagnostic**

#### Making progress in all product lines

#### **PROMONITOR**

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# Key takeaways The global leader in transfusion medicine building a portfolio in Specialty Diagnostic

### **Key takeaways**

The global leader in transfusion medicine building a portfolio in Specialty Diagnostic

- Grifols Diagnostic is the global leader in transfusion medicine:
  - Acquisition of NAT R&D and manufacturing assets gives us full control over our Donor Screening business
  - · Antigens expanding the capabilities of our new antigen manufacturing facility in Emeryville
  - · Immunohematology the fastest growing player with a complete portfolio of products
- We continue to build a diversified portfolio of businesses in Specialty Diagnostics
- Hemostasis growing our product line of instruments and reagents through a worldwide distribution agreement just signed with Beckman Coulter
- We will continue exploring business development opportunities and long-term partnerships

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## **Diagnostic**

Maximizing value through effective integration

**Greg Rich Head of the Integration Office** President and CEO of Grifols Shared Services NA

## **Executive Summary**

Integration, a core capability of Grifols

- Grifols has successfully integrated businesses for over 15 years
- Grifols has established an Integration Management Office (IMO) to oversee, in collaboration with senior management, all integration activities
- Transitional Services Agreement established to provide an orderly and efficient transition of the NAT blood screening business
- The integration of the NAT blood screening business is on track
- Grifols will continue to collaborate with Hologic

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## Integration, a core capability of Grifols

Proven track record

Track record of identifying, executing and integrating acquisitions						
W SeraCare	Alpha THERAPEUTIC CORPORATION	BIOMEDICS PlasmaCare	-	Talecris	NOVARTIS DIAGNOSTICS	HOLOGIC
100%	Assets	27 plasma collection centers	100%	100%	Assets	Assets
2002	2003	2006 - 2008	2008 / 2011	2011	2014	2017

- Grifols has the intellectual know-how to integrate businesses from the simplest to the most complicated eliminating the need for consultants
- The internal know-how culminated in the establishment of the Integration Management Office, as part of the Corporate Strategy Office

## Integration governance structure

Comprised of teams from Grifols and Hologic



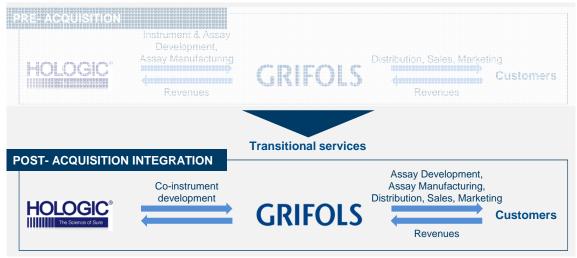
- Managed by the Grifols Integration Management Office
  - Using a structured and repeatable integration model, the IMO drives execution of the integration plan focusing on milestones and value-drivers
- Includes a cross-functional workstream members
- Transitional Services Agreement ensures continued, un-interrupted operations until full segregation has been obtained

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## **Hologic Partnership Evolution**

Capturing maximum value chain benefit, leveraging capabilities



## **NAT Hologic integration milestones**

## **GRIFOLS**

## Key integration activities

Integration process is on track. Support functions fully integrated within 12 months

	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
Human Resources								
Finance								
Information Technology					=			
Regulatory								
Quality								
Manufacturing								
Research & Development					=			
Facilities/ Engineering								

## **Key integration activities**

Milestones are on track



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**GRIFOLS** 

## **Manufacturing operations - Vision**

Improving and streamlining product workflow



## **Manufacturing facilities**

Close proximity of facilities



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**GRIFOLS** 

## **Manufacturing facilities - Future state**

Close proximity of facilities



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## **Continued collaboration with Hologic**

## **GRIFOLS**

## **Continued partnership**

Leveraging strengths and capabilities

## Co-development agreement

- Continued collaboration:
  - On ongoing development projects
  - Future instrumentation development activities

## Purchasing power

- Volume combined in select purchases to minimize costs:
  - Consumables
  - Enzymes

## Other opportunities

- Leverage in-house expertise and new state-of-the-art manufacturing facilities:
  - Supply agreement
  - Contract manufacturing

# Key takeaways Capturing the value of integration

### **GRIFOLS**

## **Key takeaways**

Capturing the value of integration

- Integration is a value add capability and is a competitive advantage for Grifols
- · Grifols has a proven track record of integrating businesses
- Integration of the NAT testing blood screening business is on track
  - Support functions will be fully integrated within 12 months
- The Transitional Services Agreement is in place to ensure no interruption to either companies
- Collaboration will continue:
  - Co-development of instruments
  - Joint purchasing power
  - Future opportunities



# **Diagnostic Investing for growth**

**Oriol Duñach** 



President of Diagnostic Industrial Group

EAMWORK

## Leveraging the Chiron legacy and investing for the future

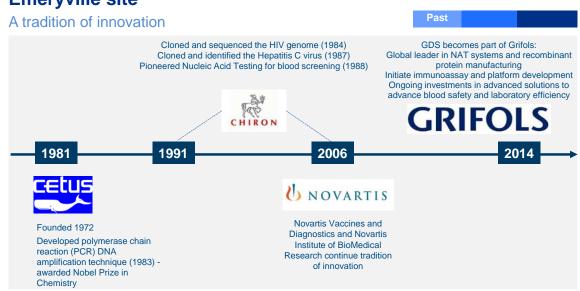
From the tradition to realizing our potential

Past	Present	Future
The Chiron legacy	Investing for growth	Realizing our potential
<ul> <li>HCV, HIV, HBV discoveries</li> <li>License and antigen supply agreements</li> </ul>	<ul> <li>Optimize efficiencies with consolidated manufacturing facility (CMF)</li> <li>Update equipment and utilities for future growth</li> <li>Extend current supply agreements</li> <li>Enhance R&amp;D capabilities</li> </ul>	<ul> <li>New Grifols immunoassay products</li> <li>New customers</li> <li>Expand Dx menu</li> <li>New capabilities and services</li> </ul>
		CDIFO

# The Past A tradition of innovation

## **GRIFOLS**

# **Emeryville site**



## Strategic relationships

Grifols antigens in essential blood and plasma assays

Past

## Ortho Clinical Diagnostics





**OraSure** 

Joint Business Partner since 1989

Develops and markets a complete line of antibodybased screening immunoassays

Grifols manufactures and performs research on the HCV, HIV, HBV antigens

HCV licensee and antigen customer since 1989

Donor screening and clinical diagnostic immunoassays

HCV and HIV rights and antigen customer since 2001

HCV licensee and antigen customer since 2005

Point-of-care diagnostics assays

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# The Present Investing in manufacturing and R&D

## **Project Horizon: Consolidated Manufacturing Facility (CMF)**

October 2014: Grifols project redesign objectives

Present

- State-of-the-art manufacturing facility, based on Grifols know-how
- · Increase manufacturing process flow efficiency
- Incorporate mammalian cell fermentation capability
- Consolidate all GMP materials handling and warehouse operations with manufacturing operations
- Increase overall plant efficiency in order to continue reducing costs

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## **Project Horizon: Consolidated Manufacturing Facility (CMF)**

Investing for future growth

Present

- GMP manufacturing of 21 commercial products used for testing blood
- GMP warehouse and raw materials sampling space
- Mechanical and process utilities (existing + upgrades of selected systems)
- · Office and collaboration space
- Consolidation of existing manufacturing operations into a single building
- Space for future manufacturing growth









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# **Project Horizon**

Investing for future growth

Present



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**GRIFOLS** 

# **Project Horizon**





# **Project Horizon**

Investing for future growth

Present



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**GRIFOLS** 

# **Project Horizon**





# **Project Horizon**

Investing for future growth

Present



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**GRIFOLS** 

# **Project Horizon**





## **Project Horizon: Timeline and regulatory**



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## Strengthening long-standing relationships

Extending agreements. Launching new products

Present



- New agreement signed in 2015
- Term through 2026
- · Extend production of current antigens
- Add five new antigens



Ortho Clinical Diagnostics

"OraSure is committed to delivering high quality infectious disease diagnostic products for our customers. As one of our trusted suppliers, Grifols' focus on service, quality and collaboration play a key role in our ongoing relationship."

Douglas A. Michels, President and CEO of OraSure Technologies Press Release April 24, 2017

- Receive CE mark for HIV Combo Test (June 2016)
- Submit HIV Combo Test for FDA review (February 2017)

## Three main protein expression platforms for growth

Addressing proteins complexity

Present

# Bacteria (prokaryote)



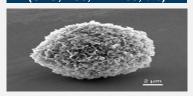
- Cell is designed for speedy replication
- Good for simple proteins

## Yeast (eukaryote)



- Cell is designed for speedy replication
- Some complex protein production

### Mammalian Cells (eukaryote) (CHO, NS0, HEK293, etc)



- Excellent for expression of glycoproteins (complex secretion systems)
- Monoclonal Antibodies, hemostasis and blood group antigens

Surge in Mammalian produced proteins due to need for complex glycoproteins and mAbs

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## R&D capabilities that span the development continuum

Present Expanding our existing approach Monoclonal generation Process Molecular **Protein** Protein and **Expression** Purification Development Design **Immunoassay** development · Design of · Advice on Custom De novo Technical rproteins design and purification and Hybridoma development platform choice analysis generation Engineering Process Mammalian Tagged and Recombinant function development properties **CHO HEK** untagged proteins mAb design · Validation and transient and and expression Fc fusions Mass verification stable spectrometry HT screening Rec mAbs Design of Yeast Light scattering Novel platforms experiments Computational proprietary design (Rosetta) · Affinity analysis Proof of Transfer to strains manufacturing concept Reverse • E. coli engineering of proteins

# The Future Realizing our potential

## **GRIFOLS**

## Strategies for value creation

Future Realizing our potential Approach diagnostic companies with infectious disease menu without HCV, HIV or HBV: **Near-term** Critical to approach early in the development process before antigen decisions are made. Expect 2-3 year timeline before product launch and regular supply Explore collaboration opportunities with other organizations that sell diagnostic reagents: Mid-term Fill gaps in 3rd party portfolios and leverage their sales organization to sell Grifols current antigens Explore partnering on development and supply of new molecules: Opportunity to engage at early stage and be strategic partner for Long-term therapeutic and diagnostic pipelines Start a revenue generating development program in R&D with plan for future GMP manufacturing

## **New R&D antigens for internal Diagnostics Projects**

Robust pipeline to support and accelerate growth

**Future** 

#### Hemostasis

- Novel vWF receptor derivatives (for clotting assay)
- Recombinant tissue factor (for improved clotting assay performance and cost efficiencies)

#### Immunohematology

- Fc fusion blocking protein (to resolve interference of daratumumab in antiglobulin testing)
- Novel rare blood group antigens (stable reagents for extended blood typing menu)

# Infectious disease

- New or improved HIV, HBV, HCV, and HTLV antigens (for ultrasensitive donor screening assays)
- New antigens for WNV, Zika, Babesia, Ebola to extend menu for donor screening and clinical diagnostics

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## Hemostasis reagents

Robust pipeline to support and accelerate growth

**Future** 

# BLEEDING DISORDERS DG-FII DG-FV DG-FVII DG-FVIII DG-FIX DG-FX DG-FXI DG-FXI DG-Latex VWF: Gp1b (GOF) (Activity)

#### THROMBOTIC DISORDERS

DG-Chrom PC DG-DRVVT

DG-Clot PS DG-DRVVT Confirm

ANTICOAGULATION
DG-Chrom Hep
DG-Chrom Anti Xa (Anti Xa DOAC)

## CALIBRATORS & CONTROLS DG-REF

DG-REF DG-C1 (6x1) DG-C2 (20x1) ROUTINE
DG-PT
DG-PT RecombiLIQ
DG-APTT Synth G-Fib L Human
DG-TT L Human



Reagents highlighted in yellow will profit from recombinant proteins or antibodies developed and manufactured at Emeryville site

## Immunohematology reagents

Robust pipeline to support and accelerate growth

**Future** 



RBC antigen typing





Recombinant blood antigens, manufactured in Emeryville, will be used to manufacture reagents able to complement/substitute current red cells

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## New R&D monoclonal antibodies

Robust pipeline to support and accelerate growth

**Future** 

Hemostasis

- Proprietary mAb for improved thrombosis assay (cost reduction)
- mAbs against clotting factors as improved controls (selectively depleted plasma) for clotting assays

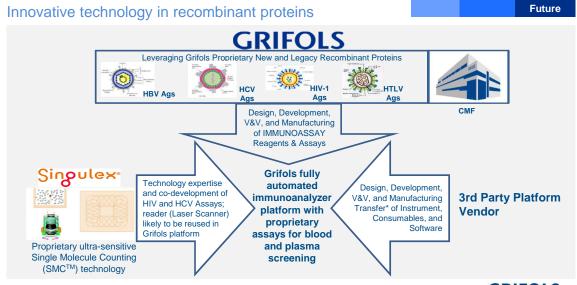
Autoimmune (biological drug monitoring)

• Biosimilars for TNF-alpha (for improved cost efficiency for ProMonitor assays)

Infectious disease

 Mabs against HIV, HBV, HCV, HTLV as capture/detection reagents for donor screening assays; mabs against other pathogens for clinical diagnostics (Ebola, Zika)

## Immunochemistry program for donor screening



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Key takeaways
Focus on innovation and growth

## **Key takeaways**

Focus on innovation for growth

- Manufacturing and R&D capabilities provide a strategic growth competency and platform
- Grifols is investing in manufacturing to support future growth, increase efficiency and lower costs
- Grifols is investing in R&D to enlarge pipeline and capabilities
- Multiple recombinant proteins in research progressing rapidly towards development phase
- Trusted development partner for molecular design, expression, purification, characterization, and process development, also for other focus areas

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# Project Horizon tour visit ORT

Ramón Biosca VP/GM Grifols Diagnostic Solutions



COMMITMENT EXCELLENCE TEAMWORK INNOVATION & IMPROVEMENT

GDS manufacturing / R&D Snapshot

## **GDS Manufacturing**

### Snapshot

<b>22</b> products	6 licensed	140 grams	<b>10-250 I.</b> scale
HCV HIV HBV Reagents	With FDA HCV HBV	Product shipped in 2016	E. Coli Yeast

- FDA licensed manufacturer, compliant with cGMP standards (CFR 210, 211 & 820)
- ISO 9001:2008 and 13485:2003
- First HCV antigen manufactured in the late 1980s (5-1-1)
- · Grifols continues to develop new antigens and improve processes: HIV combo launched in 2016 uses a new HIV antigen



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### **GDS R&D**

A global operation with multiple geographic centers of excellence

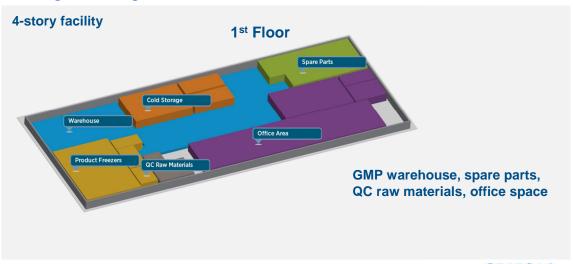


In Emergville, novel Grifols recombinant proteins are designed with state-of-the-art protein engineering capabilities in research, shepherded through robust development processes and become components of proprietary Grifols assays

# Facility Tour CMF layout and Tour logistics

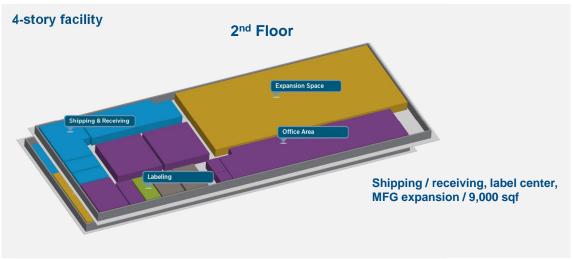
## **GRIFOLS**

# **CMF: Consolidated Manufacturing Facility**



## **CMF: Consolidated Manufacturing Facility**

Investing for future growth

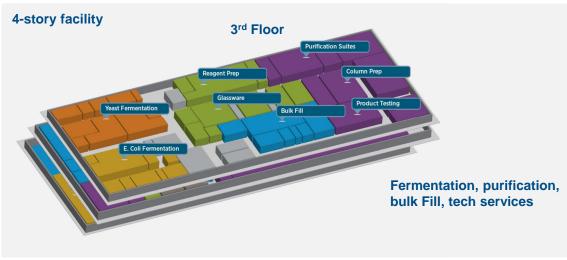


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## **CMF: Consolidated Manufacturing Facility**

Investing for future growth



**GRIFOLS** 

## **CMF: Consolidated Manufacturing Facility**

Investing for future growth

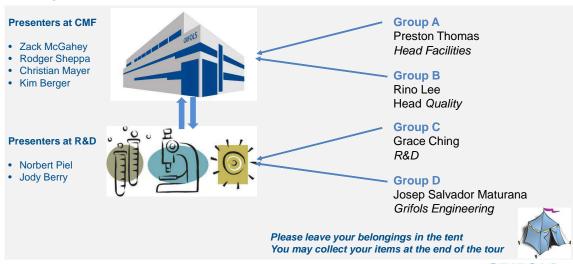


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## **CMF: Consolidated Manufacturing Facility**

## **Tour logistics**





# **Investors' & Analysts' Meeting 2017**

Emeryville (California, USA)
June 7<sup>th</sup> and 8<sup>th</sup>, 2017



## Thursday, June 8th 2017 Emeryville

Time	Topic	Presenter
08:00	Pick up from hotels	
08:30	Arrival at Grifols Diagnostic Solutions (GDS) headquarters	
08:30 - 09:00	Coffee	
09:00	Bio Supplies Division introduction	A. Arroyo
09:00 - 09:30	Access Biologicals	M. Crowley
09:30 - 10:15	Innovation: redefining the industry	D. Bell
10:15 - 10:45	Coffee break	
10:45 - 11:45	Financials: focus on profitable growth	A. Arroyo
11:45 - 12:15	Q&A	
12:15 - 12:45	Driving value creation through disciplined strategy execution	V. Grífols Deu
12:45	Lunch and transfers to airport	

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**Bio Supplies Division**FFORT

Strengthening our diversified recurring revenue base

Alfredo Arroyo
Chief Financial Officer



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IMPROVEMENT

## **Bio Supplies Division**

Strengthening our diversified recurring revenue base



- The new Bio Supplies Division includes revenues from manufacturing agreements, biological products for non-therapeutic use and other biological products
- Current revenues were previously included in Raw Materials and Bioscience
- To enhance its business, Grifols acquired 49% of Access Biologicals, with a 5-year call option
- Access Biologicals, serving the Diagnostic and Life Sciences industries, manufactures biological products for biopharmaceutical, in-vitro Diagnostic cell culture companies and Diagnostic research and development
- Supply agreement to sell to Access Biologicals plasma products for nontherapeutic use
- In the future, this new division will make a very positive revenue and margin contribution

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# Access Biologicals LLC Powering growth through optimization and innovation

Mike Crowley
Managing Director



Access Biologicals LLC

## The Access Biologicals advantage





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## The Access Biologicals' model



## What we do:

- Access Biologicals manufactures non-injectable plasma into diagnostic controls/calibrators used by large instrument manufactures as reagents.
- We provide the liquid component used for testing patient samples to validate accuracy and performance of the instrument prior to reporting the test results.

# Closed loop supply chain:

- Access Biologicals owns a collection center and the licensing for numerous disease state markers.
- Our testing lab includes an extensive selection of instruments for customization of plasma characteristics per customer specifications.

# Robust strategy to increase market share

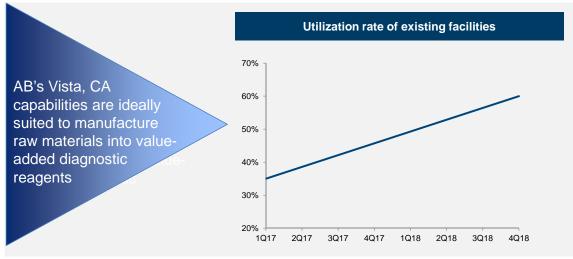


Capitalize on Access Biologicals' sales channels of over 275 unique **Sales Channels** corporate customers to increase sales volume of the non-therapeutic products Leverage Access Biologicals' customer vendor approvals for the introduction of new products. Vendor **Approvals** As vendor consolidation continues, we are able to strengthen our market position. Use Access Biologicals' manufacturing capabilities to produce serum media components for the fast growing immunotherapy market. **Cell Culture** The immunotherapy market has substantial high-margin growth Manufacturing opportunities as we internally source all raw materials and own the manufacturing facilities.

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### 





# The Access Biologicals-Grifols strategic advantage:

- Capitalize on the availability of new inventory by converting them into Diagnostic and Cell Culture materials.
- Increase utilization of the manufacturing facility by selling higher margin finished goods and the use of technology transfers.
- Maximize our innovation to create media components for the immunotherapy market.

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# Research, development and innovation Redefining the industry

David Bell
Chief Innovation Office. General Counsel



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IMPROVEMENT

## Grifols has a long history of transformative innovation

...which has defined the very essence of our industry



Establishing the core technology of plasmapheresis



Paving the way for the birth of the plasma fractionation industry as we know it today



Redefining technology through engineering and manufacturing pre-eminence

Grifols remains a recognized leader in innovation by advancing the field of plasma therapeutics while also exploring new platforms for growth

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## Grifols is a recognized leader of innovation

Ranked among the world's 100 most innovative companies for fourth consecutive year



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## **Innovation across divisions**

2016-2017 regulatory submissions snapshot

	864 regulate	ory submissio	ns for produc	t approvals	
	Biologic products	Diagnostic Products	Hospital products	35 Partner studies	389 Patents granted
FDA approvals	35	5		Under the Grifols	Covering 46 distinct
EMA approvals (or other European)	51	26	26	Investigator Sponsored Research (ISR) Program	inventions
Other regulatory authorities	177	392		covering 7 varied disease	
Total approvals	263	423	26	states	

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## Innovation is embedded in Grifols pioneering spirit

The objective is R&D drives long-term growth and profitability

#### Creativity

• Foster an environment of creativity, actively looking for disruptive technologies and value-enhancing opportunities

#### **Broad Engagement**

- Ensure all employees are engaged across commercial divisions and Engineering
- Drive an interdisciplinary approach to discovering and capitalizing on emerging technology and business: incorporating R&D, Commercial (Sales/Marketing), Regulatory, Manufacturing, Medical & Scientific Affairs

#### Latitude

 Drive innovation that includes internal and external R&D projects, collaborations, investments, licensing, ISRs and IP

#### Differentiation

• Ensure industry leadership in all of our product and service offerings

# INNOVATION OBJECTIVES:

Meet market requirements and support the business by keeping it competitive

Broaden and deepen our product offerings to drive long-term growth and profitability

Bring innovative therapies and services to global markets to further the company's mission



# Our simple goal: redefine the industry

## **GRIFOLS**

## Our innovation strategy

Exploit existing capabilities while exploring new opportunities

## A broad and differentiated portfolio

- Maximize the liter (new proteins, new indications)
- Expand the market (adjacencies/complementary opportunities)
- Pursue incremental improvements in existing products/operations to drive efficiencies and deliver ever-greater value

## 

- Leverage and apply technological/process advances to fundamentally change our business
- Develop new testing solutions for product and patient safety
- Advance disruptive technologies that profoundly enhance our portfolio

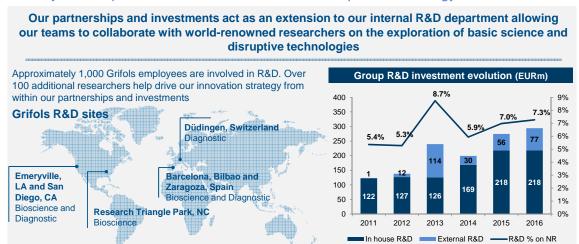
## Strategic collaborations

- Partnerships with over 35 leading universities and institutions, including Stanford University, Harvard University, the Mayo Clinic, Hospital Clinic Barcelona, University of Pittsburgh and Fundación Ace
- GIANT: Leveraging our external investments for commercial success



## Strategic collaborations: leveraging internal & external expertise

Side-by-side exploration of basic science and disruptive technology



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## Broad and differentiated portfolio - Selected projects

Three innovation horizons for Bioscience

	Near-term < 3 years	Mid-term 3-5 years	Long-term 5-10 years
New technology	SCIG (Subcutaneous)     Albumin in bags     Liquid A-1PI     Reduced volume pdFVIII     IGIM Hyperimmunes	Flexible dosing     IVIG in bags	Transdermal     Inhaled
New instrumentation	Neurologic disease modulation     Alzheimer's (AMBAR)     MMN     Myasthenia Gravis (crisis)	Diseases associated with aging (cognitive and motor function)     Albumin     Liver failure     Cirrhosis	Myasthenia Gravis (maintenance)     Biosurgery
New products	Fibrin sealant     Thrombin     Inhaled antibiotics for BE	Plasma youth factors for disease modulation	Aging inhibitors and youth factors

# **Broad and differentiated portfolio - Selected projects**

Three innovation horizons for Diagnostic

	Near-term < 3 years	Mid-term 3-5 years	Long-term 5-10 years
New technology	Enhanced blood collection systems     Reagent red blood cells     manufacturing using recombinant     red cells antigens     Promonitor Quick (lateral flow) for     anti-IFX	Next generation donor screening - single molecule counting	Next generation donor screening - single molecule counting     Next generation sequencing
New instrumentation	High throughput Hemostasis instrument NAT automation Immunohematology gel card reader	Middleware software     IH Multicard automation	Next generation immunoassay instrument
New products	New NAT virus test development (Zika, Babesia) A1AT genotyping test (for alpha-1 deficiency) IH Blood genotyping (D) kit New kits for biologicals treatments monitoring	New assays for emerging pathogens     Multiple target testing (multiplexed)	Reagents: D-Dimer Hemostasis kits     Pathogen detection by NextGen sequencing

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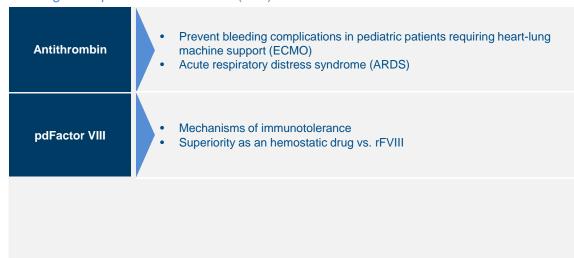
# **Expanding indications through partnerships**

Investigator Sponsored Research (ISR) studies

mirodigator openio	orda resocaron (isre) studies
lmmunoglobulin	<ul> <li>Refine diagnosis in CIDP</li> <li>Biomarkers of azonal changes in solid organ transplantation</li> <li>Cutaneous lupus erythematosus</li> <li>Small fiber neuropathy</li> <li>Demyelination in diabetes mellitus</li> </ul>
Alpha-1 Antitrypsin	Assessing risk of COPD in PI MZ genotype     Dose adjustment on microbiome profiles     ST-Segment elevation acute myocardial infarction     Bronchiolitis obliterans
Albumin	<ul> <li>Management of patients requiring dialysis for acute kidney failure</li> <li>Prevention of renal failure from complications of cirrhosis</li> <li>Improvement of coronary integrity in heart transplant</li> </ul>
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## **Expanding indications through partnerships**

Investigator Sponsored Research (ISR) studies

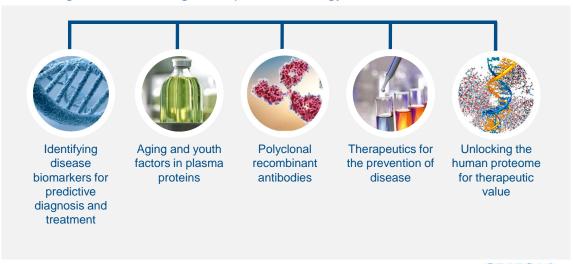


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## **Exploratory breakthroughs**

Redefining the future through disruptive technology



## **Tackling neurodegenerative diseases**

Comprehensive approach to the fight against Alzheimer's







- Grifols AMBAR study (launched 2012), combines the use of plasma products (albumin, IVIG) and plasmapheresis to treat Alzheimer's disease. In November 2015, the study released intermediate results that support the feasibility of the treatment. The last patient visit is scheduled for 2017
- Diagnostics: Early detection of Alzheimer's Disease - ability to differentiate from other dementias
- **Treatment**: Alzheimer's Preventative therapeutic against scientifically accepted targets
- Testing: Capabilities in our CLIA Laboratory in San Marcos, TX





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## Transformative therapies relating to the aging process

Expanding our plasma-derived proteins







- Identify plasma-based proteins that function as "youth" or "aging" factors/triggers
- Develop function-restoring and enhancing therapies derived from plasma and its recent lives. derived from plasma and its recombinant analogs
  - Proteomic analysis of plasma and plasma fractions occurring at a remarkable rate, accelerating the pathway to therapeutic success
  - · Clinical trials initiated in humans

## **Next generation immunoassay**

Highly sensitive technology applicable to both transfusion and specialty diagnostics



- Single Molecule Counting (SMC<sup>TM</sup>) technology is 100 times more sensitive than contemporary immunoassay platforms, enabling unprecedented high precision and digital detection of viral markers.
- Sets a new standard for Immunoassay sensitivity
  - Enhanced safety for blood and plasma donations
- · Compliment to NAT
- Provides for geographic expansion

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**Key takeaways Redefining the industry** 

## **Key takeaways**

Redefining our industry



#### **Innovation**

We are redefining the Plasma Therapeutics and Specialty Diagnostics fields with a differentiated product portfolio and disruptive technologies that will change the course of the these industries



#### Collaboration

Our collaborative model of innovation leverages internal expertise, partnerships and strategic investments providing access to top researchers, creative ideas and disruptive technologies



#### **Success**

Our success will ensure our continued status as an industry leader, commercializing cutting-edge technologies that enhance patient health and product quality

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**Financials** 

SAFETY EFFORT

Focus on profitable growth MITMENT

Alfredo Arroyo
Chief Financial Officer



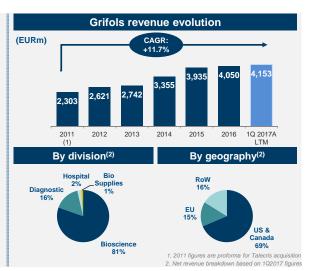
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**Grifols investment case** 

## **Grifols investment case**

#### Positioned for success

- Global presence with a diversified revenue base
- Leading player in plasma-derivatives industry
- · Vertically integrated business model
- Improved market dynamic for plasmaderivatives products with strong fundamentals and barriers to entry
- Leading market position and a full product portfolio in transfusion medicine
- Attractive margins with significant cash flow generation
- Significant value creation through acquisitions
- Refinance process completed: value creation



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## **Grifols investment case**

Strengthening the value chain across the 3 main divisions

Out of iguilor in ig a ro	value offair defects the official divisions
Bioscience	<ul> <li>Global producer with market leadership to be further enhanced by ongoing capacity expansion programs</li> <li>Plasma derived therapies expected to continue growing supported by favorable demand and supply dynamics</li> <li>Focused R&amp;D to support and contribute future growth</li> </ul>
Diagnostic	<ul> <li>Steady growth. Highly profitable business</li> <li>Market leadership in transfusion medicine</li> <li>Continuous investment in new diagnostic technologies</li> </ul>
Hospital	<ul> <li>Maintain leadership in Spain</li> <li>Leader in the introduction of hospital logistics automation systems in Spain and Latin America</li> <li>Strengthening presence in the U.S. market</li> </ul>
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#### **Grifols investment case**

Strengthening the value chain: New Bio Supplies Division



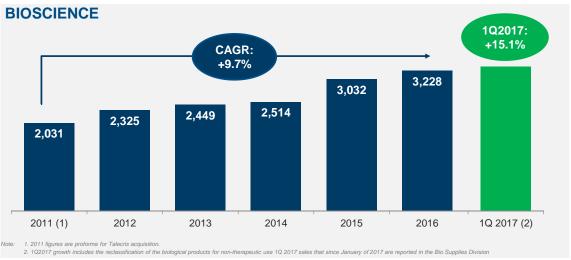
- The new Bio Supplies Division includes revenues from manufacturing agreements, biological products for non-therapeutic use and other biological products
- Current revenues were previously included in Raw Materials and Bioscience
- To enhance its business, Grifols acquired 49% of Access Biologicals, with a 5-year call option
- Access Biologicals, serving the Diagnostic and Life Sciences industries, manufactures biological products for biopharmaceutical, in-vitro Diagnostic cell culture companies and Diagnostic research and development
- Supply agreement to sell to Access Biologicals plasma products for nontherapeutic use
- In the future, this new division will make a very positive revenue and margin contribution

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# Grifols by the numbers Long-term growth trajectory

Building a financial track record (EURm except %)

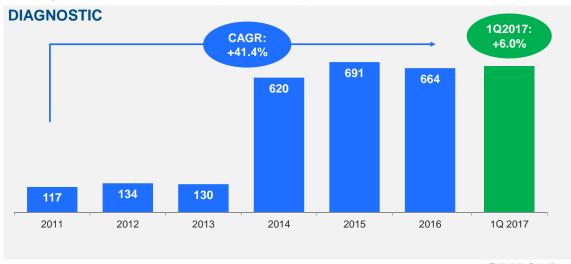


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## Grifols by the numbers: long-term growth trajectory

Building a financial track record (EURm except %)



Building a financial track record (EURm except %)

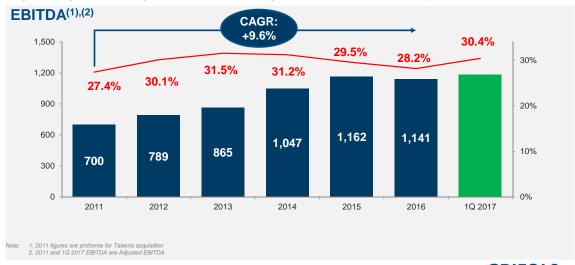


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## Grifols by the numbers: long-term growth trajectory

High margins with significant cash flow generation (EURm except %)



High margins with significant cash flow generation (EURm except %)

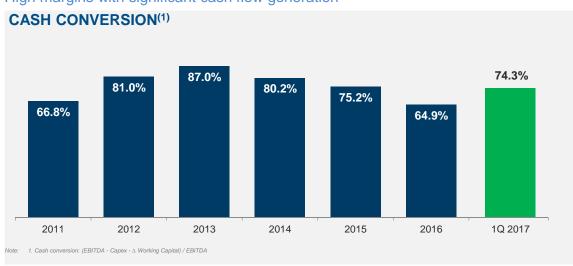


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#### **GRIFOLS**

#### Grifols by the numbers: long-term growth trajectory

High margins with significant cash flow generation



Financial strengths: 2016 through 1Q 2017

#### Steady growth in 2016 (+6.6% cc in 2016). Improved market dynamics in H1 2017 (+11.9% cc in 1Q 2017) **Bioscience** Alpha-1 continued its double-digit hike • Albumin banked on China sales increase Revenues • IVIG robust growth in the U.S. • pdFVIII: lower volumes offset by a shift to higher-priced areas (positive geographic mix) Turning into positive growth in H2 2016 and 1Q 2017 (+3.3% cc in 1Q 2017) Diagnostic • NAT reversed H1 low sales in H2 2016. NAT integrated business delivered further growth Revenues in 1Q 2017 driven by the U.S., China and Japan • Immunoassay impacted by Abbott contract (H1 2016) and lower manufacturing costs • Immunohematology strengthening its position in U.S. Flat performance in 2016 and 1Q 2017 Hospital · Main contributions from Intravenous Solutions and Pharmatech Revenues • Internationalization with presence in the U.S., Portugal, Chile and several countries of Asia-Pacific

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#### Grifols by the numbers: long-term growth trajectory

Financial strengths: 2016 through 1Q 2017

Margin	<ul> <li>Bioscience impacted by the plasma costs related with a significant opening of new donation centers</li> <li>Diagnostic margins improved in H2 2016. Margin boosted as a result of the NAT acquisition in 1Q 2017</li> <li>Significant royalty revenues drop as planned in 2016</li> </ul>
Cash flow	<ul> <li>Net operating cash flow of EUR 553m in 2016 and EUR 640m for 1Q 2017 LTM</li> <li>1Q 2017 strong cash position despite of the NAT acquisition cash payment and transaction and refinancing costs</li> <li>Leverage ratio increased to 4.45x at 1Q 2017 from 3.55x at December 31, 2016 due to the NAT acquisition</li> </ul>

Capital allocation: Capex for growth

- Managed 1Q 2017 LTM Capex to **EUR 273m**
- · Continued emphasis on execution and
- capacity in Bioscience Division
- half-and-half

7.5% 6.8% capital allocation efficacy and return 252 · New wave of investment for additional 152 • Maintenance vs expansion capex: 2013 2014 2015 2016 1Q 2017A LTM as % of sales 1. Includes investments in PP&E; excludes extraordinary cash flow items

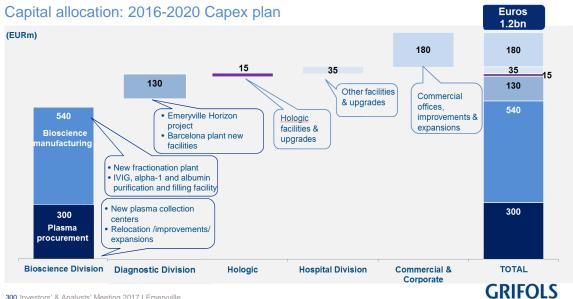
(EURm)

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Capex evolution<sup>1</sup>

## Grifols by the numbers: long-term growth trajectory



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Enhancing the portfolio and securing future growth through acquisitions

INTERSTATE Blood Bank Inc	Singulex	Access Biologicals LLC	KEDPLASMA
United States	United States	United States	United States
May 2016	May 2016	January 2017	February 2017
Stake of 49% USD100m	Stake of 20% USD50m	Stake of 49% USD51m	6 plasma centers in the U.S. USD47m
One of the main private and independent plasma suppliers in the U.S. Currently one of Grifols' external plasma suppliers  The acquisition enables to	Highly sensitive technology applicable to both transfusion and specialty diagnostics Enable high-value assays using rare biomarkers	Manufacture of biological products, such as specific intravenous and plasma reagents, which are used by biotechnological and biopharmaceutical companies for in-vitro diagnosis, cell	Grifols already runs the 6 plasma centers from March 1, 2017
trengthen plasma sources  3-year call option		culture and research and development in the field of diagnosis	
		5-year call option	

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## Grifols by the numbers: long-term growth trajectory

Solid Balance Sheet: Sound financial position



Solid Balance Sheet: Sound financial position



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# NAT Acquisition Capturing the value of integration

#### **Capturing the value of integration**

The acquisition transforms Diagnostic into an integrated, high-margin business

Vertically integrated NAT business	<ul> <li>Creates a vertically integrated NAT business across R&amp;D, manufacturing, sales &amp; marketing and corporate functions</li> <li>Captures operational efficiency across the whole value chain</li> </ul>
Consolidated diagnostics platform	Further consolidates diagnostics capabilities, combining NAT Blood Screening, Immunoassay Blood Donor Screening and Immunohematology businesses
Enhanced market leadership	Enhances Grifols Diagnostic leadership position in the global diagnostics market, with an estimated c.60% share global blood donations
Significant margin expansion	The transaction improves Diagnostic EBITDA margin from c.17% to c.40% and Grifols Group EBITDA margin by +350bps

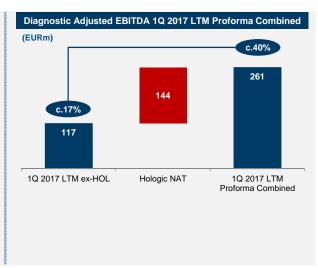
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#### Capturing the value of integration

Significant increase in profitability

- This transaction is part of the growth strategy envisaged for the Diagnostic Division
- The acquisition enables Grifols to continue strengthening its leading position in transfusion medicine
- The integration of manufacturing and R&D capabilities makes a significant margin contribution
- The entire cash flow is transferred to Grifols



# **Building value through debt refinancing**

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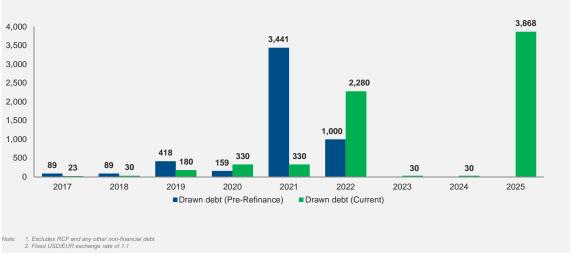
## **Building value through debt refinancing**

Leveraging our strength: targets achieved

	Margin: L+175bps	Margin: L+225bps	Coupon: 3.2%
USD7.3bn Debt refinanced	Tenor: 6 years	Tenor: 8 years	Tenor: 8 years
	Quasi-Bullet amortization	Bullet amortization	Bullet amortization
	→ Interest rate reduction <sup>1,2</sup> : c120bps		
	→ Financial expenses¹ annual reduction: c.EUR -80m		
	→ Average Interest Cost Id	ower than 3%	

## **Building value through debt refinancing**

Debt<sup>(1)</sup> maturity profile c.7 years average tenor in USDm<sup>(2)</sup>



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# **Enhanced growth and margin Broad portfolio of opportunities**

## **Enhanced growth and margin**

Managing the business to achieve industry-leading returns

Bioscience	Effectively drive organic growth through diagnosis and treatments     Accelerate market development in relevant global markets     Capacity leadership in plasma collection and manufacturing to maximize growth opportunities     Drive revenue growth through delivery of innovation of new plasma products and new formulations     Volume and scale driving costs improvements
Diagnostic	Effectively drive growth and profitability across the value chain     Expand commercial reach through products and customers, geographies and distribution networks     Increase manufacturing capabilities     Enhance product portfolio to strengthen competitive edge and investment in new technologies with broad applicability     Leverage leadership position in the transfusion medicine space. Specialty diagnostics growth
Hospital	Increase scale and profitability     Global expansion increasing presence in the U.S. market     Optimize current manufacturing capabilities     Timely innovation projects to support future division growth and value creation     Leverage existing business capabilities and product portfolios

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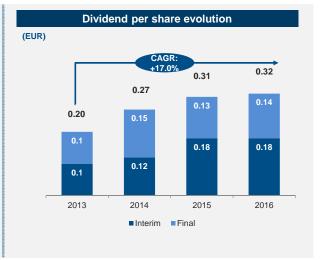
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# **Return to shareholders**

#### **Return to shareholders**

Sharing success with shareholders

- Accumulated annual dividend up 17.0% over the last 4 years
- Over EUR 660m returned to shareholders since 2011
- Pay-out ratio 40% of reported consolidated profits
- Continuous DPS increase on the back of profit growth



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## Key takeaways Creating long-term value



#### **Key takeaways**

#### Creating long-term value

- Maintain long-term industry growth and returns
  - Global plasma industry has historically enjoyed significant and steady growth and is expected to experience further 6-7% annual sustainable growth
  - Strengthen market leadership in a high margin transfusion medicine industry
- NAT acquisition: capture value-chain benefits, leverage capabilities
- Refinancing process: long-term value creation
- Target profitable growth together with cash flow generation
- Financial policy and capital allocation well established, efficient, disciplined and focused
- Continued dividend distribution to create value through profitable growth

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**Strategy Update** 

Driving value creation through disciplined strategy execution

Víctor Grífols Deu Co-CEO



EXCELLENCE
TEAMWORK
INNOVATION &
IMPROVEMENT

#### **Grifols Mission**

Grifols is a leading, diversified, global Bioscience company with a growing position in the Diagnostic and Hospital fields

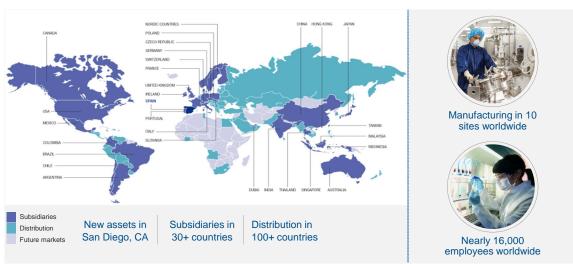
Our mission is to provide state-of-the-art therapies, products and services to our patients and customers around the world while delivering value to shareholders



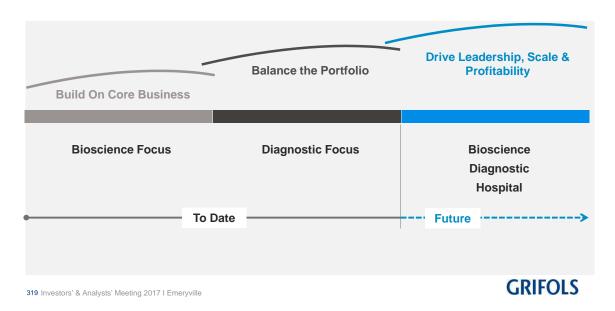
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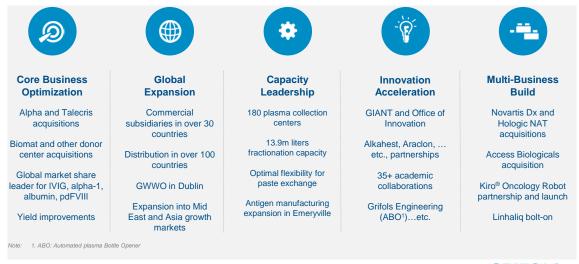
## Grifols in 2017: company profile and global footprint



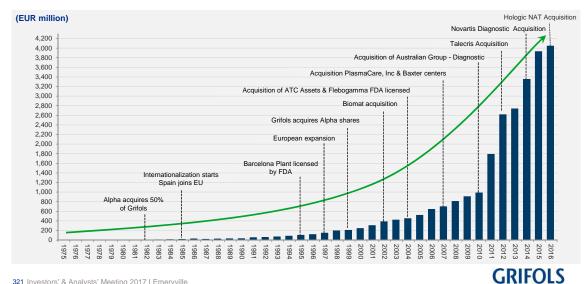
#### Three growth horizons



## Highlights of our focused and disciplined growth strategy to date

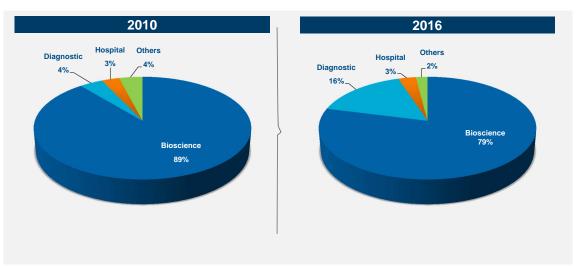


## Results: top-line growth



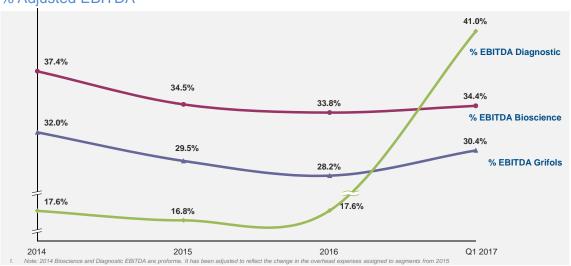
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#### Results: diversified revenue base



## Results: profitability evolution

% Adjusted EBITDA



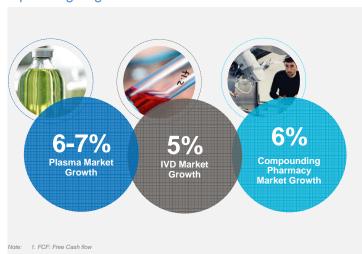
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# Looking ahead

#### We are well positioned for the future

Operating in growth markets



# Executing on these opportunities

- Capabilities, platforms and infrastructure to drive growth
- Vertically integrated businesses to manage margins and value chain
- FCF<sup>(1)</sup> to take advantage of opportunities that enhance shareholder value
- New leadership but unchanged philosophy, vision and strategy
- Track record of strategy execution with financial discipline

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## Focus going forward

Unlocking value for profitable growth across all businesses



BIOSCIENCE DIVISION

Continued leadership in the plasma therapeutics industry



**DIAGNOSTICS DIVISION**Expanding an integrated, high margin, specialty business

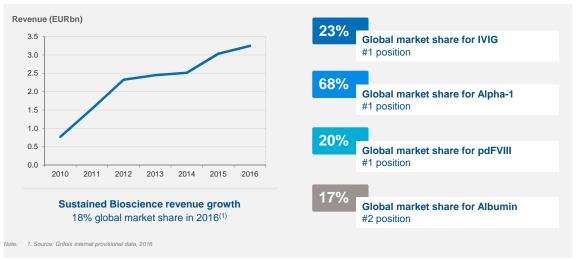


HOSPITAL DIVISION

Building a profitable niche leader with synergistic strength

#### Continued leadership in the plasma therapeutics industry

Grifols is the global market leader for 3 major proteins(1)

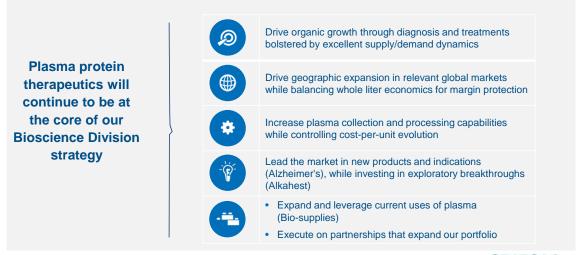


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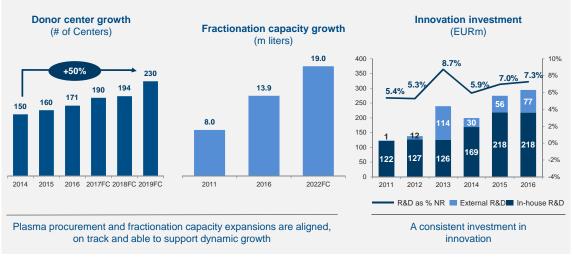
#### Continued leadership in the plasma therapeutics industry

Bioscience has a clear roadmap



#### Continued leadership in the plasma therapeutics industry

The foundations of successful growth

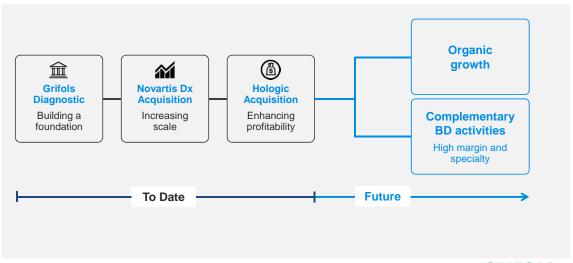


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#### Expanding an integrated, high-margin specialty business

Diagnostic is a fast evolving business



#### Expanding an integrated, high-margin specialty business

Diagnostic has a clear niche leadership roadmap

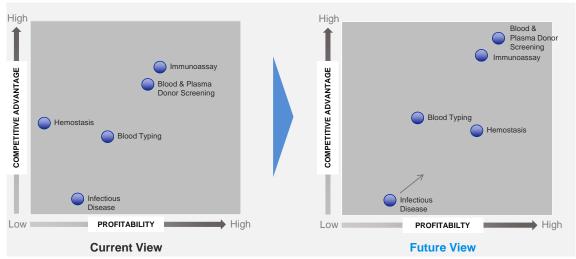


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## Expanding an integrated, high-margin specialty business

Diagnostic value creation path



#### Building a niche hospital leader with synergistic strengths

Hospital focus on core business development and profitable growth



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#### Building a niche hospital leader with synergistic strengths

Hospital has a clear niche leadership roadmap

Integrated, "smart"
hospital pharmacy
solutions will drive
our Hospital
Division strategy

Rebalance portfolio and refocus on profitability

Accelerate U.S. expansion with IV solutions and KIRO
through organic and BD strategies

Leverage highly automated facilities for LVPs for low unit
cost and adaptability to profit from market conditions

Leverage sterile compounding expertise and products to
develop new software applications and next generation
enhancements

Explore opportunities to build portfolio through BD activities
and leverage capabilities for Bioscience

## Key takeaways

## Driving value creation through disciplined strategy execution

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#### **Key takeaways**

Driving value creation through disciplined strategy execution



#### Core Business Optimization

Plasma therapeutics as the core business - now and tomorrow



## Global Expansion

Profitable growth and expansion organically and through BD



#### Capacity Leadership

A foundation for leadership and profitable, multibusiness growth



## Innovation Acceleration

Innovation from all businesses as a focus and priority



#### Multi-Business Build

Diagnostic a profitable growth engine and Hospital an emerging business with opportunities

Drive sales growth and manage EBITDA margins



#### The future

Building on over 75 years of leadership, innovation and commitment to patients

Our recent leadership succession ensures that our mission, vision and priorities remain unchanged







This commitment and consistent approach to strategy formulation and execution will continue to deliver profitable growth and drive value creation

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