ABOUT GRIFOLS

ESTABLISHMENT
1940
DEDICATED TO GLOBAL HEALTHCARE FOR NEARLY 80 YEARS

DIVISIONS
4
CONSOLIDATED AND COMPLEMENTARY BUSINESS AREAS

COMMERCIAL PRESENCE
100 countries
SUBSIDIARIES IN MORE THAN 30 COUNTRIES AND PRODUCTION PLANTS IN 6

PLASMA DERIVATIVES MEDICINES
GLOBAL LEADERSHIP
SOLID, LONG-TERM STRATEGY TO CONTINUE AT THE INDUSTRY’S FOREFRONT

A GLOBAL COMPANY DEDICATED TO IMPROVING THE HEALTH AND WELL-BEING OF PATIENTS WORLDWIDE

LEADERS IN THE PRODUCTION OF PLASMA-DERIVED MEDICINES, RECOGNIZE LEADER IN TRANSFUSIONAL DIAGNOSTICS AND EXPERTS IN SOLUTIONS FOR HOSPITALS

THE COMMITMENT AND EXPERTISE OF OUR TALENT POOL AND OUR STEADFAST QUEST FOR EXCELLENCE MAKE THE DIFFERENCE
OUR ORIGINS MAKE THE DIFFERENCE

HELPING TO ENHANCE THE HEALTH OF PEOPLE SINCE 1940

1940
Dr. José Antonio Grífols Roig establishes Laboratorios Grifols in Barcelona.

1943
Production of the first single-donor lyophilized plasma in continental Europe. Grifols patents this process in Spain and develops a lyophilizer and complementary devices to later inject plasma as a therapy.

1945
Grifols opens the first private blood bank in Spain.

1951
Dr. José Antonio Grífols Lucas develops the plasmapheresis technique.

1958
First plasma fractionation plant in Spain begins operations.

1973
Grifols opens its new production facility in Barcelona.
**Dr. Víctor Grífols i Lucas** lead Grifols to become the first non-U.S. company to obtain a FDA establishment license and a FDA license for a biological product (albumin).

**Grifols acquires the U.S.-based company SeraCare, currently Biomat U.S., along with its 43 plasmapheresis centers.**

**Grifols is listed on the Spanish stock exchange.**

**FDA grants approval for the immunoglobulin Barcelona plant (IVIG).**

**Grifols is listed on the NASDAQ stock exchange.**

**Grifols acquires the assets of Alpha Therapeutic Corporation-Mitsubishi, including its plasma therapy manufacturing plant in Los Angeles, California.**

**Grifols acquires Talecris Biotherapeutics to become the third-largest global manufacturer of plasma-derived protein therapies.**

**Acquisition of the transfusional diagnostic assets from Novartis.**

**Leaders in plasma collection centers, with 256 centers in the U.S. and Europe.**

**Initiation of strategic collaboration with Shanghai RAAS in China.**

**Presentation of encouraging results from the AMBAR clinical trial.**

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**1995**

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**2002**

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**2003**

Grifols acquires the assets of Alpha Therapeutic Corporation-Mitsubishi, including its plasma therapy manufacturing plant in Los Angeles, California.

**2006**

FDA grants approval for the immunoglobulin Barcelona plant (IVIG).

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**2011**

Grifols acquires Talecris Biotherapeutics to become the third-largest global manufacturer of plasma-derived protein therapies.

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**2014**

Acquisition of the transfusional diagnostic assets from Novartis.

**2016**

Acquisition of Hologic’s share of NAT donor screening unit.

**2018**

Leaders in plasma collection centers, with 256 centers in the U.S. and Europe.

Initiation of strategic collaboration with Shanghai RAAS in China.

Presentation of encouraging results from the AMBAR clinical trial.
FOUR DIVISIONS AND A UNIQUE COMMITMENT TO QUALITY AND SAFETY

BIOSCIENCE DIVISION
Leaders in the production of plasma-derived medicines for the treatment of rare and chronic diseases.

- **Immunoglobulins**, used mainly in the treatment of primary immunodeficiencies and rare neurological diseases like chronic inflammatory demyelinating polyneuropathy (CIDP).
- **Albumin**, used to treat liver diseases, as well as to restore blood volume and essential proteins following trauma, cardiocirculatory insufficiency and severe burns.
- **Alpha-1 Antitrypsin** (A1P1) used to treat alpha-1 deficiency, a rare genetic disease that can lead to severe lung diseases such as emphysema.
- **Factor VIII** and other clotting factors for hematology used to treat hemophilia and other conditions that can lead to episodes of internal bleeding.
- **Other specialty hyperimmune immunoglobulins** to treat potentially life-threatening infections like rabies, tetanus, hepatitis B and Rh incompatibility.

MAIN PROTEINS AND THERAPEUTIC AREAS:

- Includes activities related to the research, development, production and sale of plasma proteins for therapeutic purposes.

DIAGNOSTIC DIVISION
Leaders in blood- and plasma-analysis systems, including NAT technology diagnostics, recombinant proteins for immunoassay reagents and blood typing solutions.

- Development and production of medical devices and reagents, as well as other services to improve transfusion safety.

MAIN AREAS OF SPECIALIZATION:

- **Transfusion medicine**:  
  - NAT (nucleic acid amplification technique) technology to detect infectious agents in blood or plasma donations.
  - Supplier of recombinant proteins for immunoassay reagents.
  - Devices and tests for blood typing and detection of antibodies.
  - Molecular diagnostic using DNA technology to determine blood groups of patients and donors.
- **Specialty diagnostics**:  
  - Immunological diagnostic of infectious and autoimmune diseases using ELISA techniques via antigen-antibody reactions.
  - Personalized medicine to monitor patients treated with biologic therapies.
  - Advanced diagnostic testing services at the Grifols immunohematology center in San Marcos (U.S.).
HOSPITAL DIVISION
Responds to the needs of hospital pharmacies to contribute to safe, high-quality patient care.

- **Intravenous solutions** to maintain or restore fluids and electrolyte balance in patients.
- **Pharmatech solutions** for each phase of the medication process, from the central hospital pharmacy to administration to hospitalized patients.
- **Clinical nutrition**, including a complete range of special diets and formulations for enteral and parenteral nutrition.
- **Medical devices for interventional therapy**, including instrumentation, medical devices and disposable materials for a range of hospital services, including use in hemodynamics, urology, anesthesiology and cardiovascular surgery.

- **MAIN AREAS OF SPECIALIZATION:**

BIO SUPPLIES DIVISION
Primarily focused on sales of biological products for non-therapeutic purposes.

- **Biological products for non-therapeutic use** and other biological products.

- **MAIN AREAS OF SPECIALIZATION:**

**MAJOR AREAS OF SPECIALIZATION:**

- **Intravenous solutions** to maintain or restore fluids and electrolyte balance in patients.
- **Pharmatech solutions** for each phase of the medication process, from the central hospital pharmacy to administration to hospitalized patients.
- **Clinical nutrition**, including a complete range of special diets and formulations for enteral and parenteral nutrition.
- **Medical devices for interventional therapy**, including instrumentation, medical devices and disposable materials for a range of hospital services, including use in hemodynamics, urology, anesthesiology and cardiovascular surgery.
At Grifols, we promote an integrated business model that ensures the quality and control of the value chain.

The success of our business model is based on the importance we place on our commitments to all stakeholders.

**AN INTEGRATED BUSINESS MODEL**
WE PUT DONORS AND PATIENTS AT THE CENTER OF THE VALUE CHAIN

OUR WORK CONVERTS THE GENEROSITY OF DONORS INTO TREATMENTS THAT ENHANCE PEOPLE’S LIVES
THE BIOSCIENCE DIVISION VALUE CHAIN
MAXIMUM SAFETY FROM DONOR TO PATIENT

PLASMA COLLECTION
An industry leader in plasma collection centers, with 256 centers in the U.S. and Europe to produce plasma-derived medicines.
Donors undergo strict medical controls prior to each donation.

TRANSPORT & LOGISTICS
The plasma obtained from qualified donors is frozen on-site at the center and sent to fractionation plants.
The adherence of strict safety procedures is critical to ensure the quality and safety of collected plasma.

ANALYSIS & CONTROL
Each unit of plasma is subject to 18 analytical tests to certify its safety and quality. The plasma units that pass all tests are stored for at least 60 days before being used. The plasma is tested again during the production process.

PRODUCTION
The next step is fractionation, which entails separating each of the many proteins found in plasma useful for therapeutic purposes. This is carried out by applying changes in temperature and pH, and filtration and centrifuging techniques.
Each protein is consequently purified before its dosage.

DISTRIBUTION
This phase includes the distribution of finished products from manufacturing plants to client facilities.
Most of Grifols’ sales in 2018 were made through its own sales network.

SAFETY AND EFFICACY
Grifols closely tracks its products after they are introduced into the market. Through its Pedigri® system, implemented more than 20 years ago, Grifols is the only company that offers detailed information to healthcare professionals on the origin and traceability of its plasma-derived products.
**WHAT IS PLASMA?**
Plasma is the liquid part of human blood that remains after platelets, red blood cells, leukocytes and other cellular components are removed. The largest component of human blood, plasma contains essential proteins that, after fractionation and purification, can be transformed into life-saving plasma-derived medicines.

**WHAT IS PLASMAPHERESIS?**
Plasmapheresis is used to obtain plasma from a blood sample. Using this technique, plasma is separated from the other blood components (red blood cells, platelets and other cells), which are returned to the donor during the donation process.

**GRIFOLS ONLY USES PLASMA FROM QUALIFIED DONORS**
Qualified donors are those who have passed all necessary medical exams and donated at least twice in the last six months. Grifols never uses plasma from first-time donors.

**18 ANALYTICAL TESTS CERTIFY THE SAFETY AND QUALITY OF PLASMA**
Each unit of plasma goes through a series of highly sensitive molecular medicine tests such as ELISA and genomic amplification like NAT. In order to be used as raw material, plasma units must pass 18 different analyses, which test for hepatitis A, B and C, HIV and parvovirus B19, among other conditions. Each lot of plasma is analyzed several times during the production process.

**GRIFOLS FRACTIONATES AND PURIFIES PLASMA PROTEINS IN ITS PRODUCTION PLANTS**
At present, the company has a fractionation capacity of 14.8 million liters of plasma per year across its manufacturing plants in the United States (Clayton, North Carolina and Los Angeles, California) and Spain (Barcelona).

**NOT EVERYONE CAN DONATE PLASMA**
Candidates must be 18 years or older, weigh at least 50 kg and pass a thorough medical exam. They undergo a health screening before every donation.
THE DIAGNOSTIC DIVISION VALUE CHAIN
GRIFOLS PROMOTES SYNERGIES AMONG ITS PORTFOLIO OF DIAGNOSTIC SOLUTIONS

PREVENTION & ANALYSIS
- Analysis of infectious agents in blood and plasma.
- Manufacture of recombinant proteins.
- Donor-patient compatibility and blood-typing systems.
- Blood bags, medical devices and other supplies to obtain and fractionate blood.

DIAGNOSIS
- Infectious diseases.
- Auto-immune conditions.
- Neurodegenerative diseases.
- Manufacture of recombinant proteins.

PROGNOSIS
- Clotting and risk of thrombosis.

TREATMENT-MONITORING
- Traceability and tracking of blood-component transfusions.
- Autoimmune tests.
- Monitoring of biologic drugs.
- Monitoring of anti-clotting treatments.

NAT TECHNOLOGY
Based on the analysis of nucleic acids, is the most advanced system to detect infectious agents in blood and plasma donations. It contributes to improved safety in transfusion diagnostics.

RECOMBINANT PROTEINS
Trigger the production of antibodies and can lead to an immune response. Antigen-antibody interactions are used as a diagnostic test in laboratories.

PERSONALIZED MEDICINE
Tailors medical treatment to the individual characteristics of each patient. Through Progenika, Grifols develops tests for patients treated with biological therapies to monitor their clinical progress and response.
**THE HOSPITAL DIVISION VALUE CHAIN**

A VALUE CHAIN THAT RESPONDS TO HOSPITALS’ NEEDS

**PROCUREMENT OF COMPONENTS**

Selection of raw material and suppliers.

**PRODUCTION**

Manufacture of intravenous solutions, sterile solutions and other healthcare products in two plants, located in Murcia and Barcelona, Spain.

Development of web- and mobile-based technologies for hospital pharmacies.

**TRANSPORT**

Transport of products to hospital pharmacies, clinics, blood banks, etc.

**SAFETY AND EFFICACY**

Commitment to patient safety through a detailed tracking of products after they are introduced into the market.

**PHYSIOLOGICAL SALINE**

Is an isotonic solution that restores electrolyte balance. It is used to treat dehydration, as a conduit to deliver medicines and electrolytes, and to restore circulatory volume following blood donations, among other applications.

**HOSPITAL PHARMACIES**

Are responsible for acquiring, preserving, dispensing and developing medicines. They oversee logistical and clinical functions, as well as pharmacovigilance and clinical pharmacokinetics, among others tasks.

**CLINICAL NUTRITION AND PROBIOTICS**

Are designed for patients who suffer from diseases that require an appropriate diet as part of their treatment plan.
GRIFOLS AROUND THE WORLD

A BROAD NETWORK THAT INCLUDES 220 PLASMA CENTERS IN THE U.S.

36 CENTERS IN EUROPE (GERMANY)
DIVERSIFY GRIFOLS’ PLASMA SUPPLY

GRIFOLS OPERATES THE LARGEST NETWORK OF PLASMA DONATION CENTERS IN THE WORLD, WITH 256 CENTERS IN THE U.S. AND EUROPE

U.S. AND CANADA
EUR 2,975 million
66% of revenues
GRIFOLS’ GLOBAL SCOPE INCLUDES OPERATIONS IN MORE THAN 100 COUNTRIES, SUBSIDIARIES IN OVER 30 AND MANUFACTURING PLANTS IN 6

EUROPEAN UNION
EUR 800 million
18% of revenues

ROW
EUR 712 million
16% of revenues
FUTURE STRATEGY

MAIN LINES OF PERFORMANCE IN 2018

In 2018, Raimon Grífols Roura and Víctor Grífols Deu concluded their second year at the helm of Grifols, advancing its track record of growth and consolidation as a solid, diversified and profitable company.

In alignment with its strategic roadmap, Grifols continues to explore and leverage its vast body of collective knowledge and potential for innovation to enhance the quality of patient care and to further support healthcare professionals. To this end, the company places particular emphasis on business optimization, globalization, innovation, digitalization, a strong client focus and talent development.

The company remains committed to a path of sustainable growth, guided by a five-year strategic plan built around six main pillars:

- Innovation, to continue building a differential product portfolio
- Enhanced customer centricity, to address the evolving needs of patients and healthcare professionals
- Global expansion, broadening its reach while maintaining the U.S. as a key market and bolstering its strategic position in high-growth markets, such as China
- Corporate growth, both organic and through corporate transactions amid an increasingly competitive market
- A robust human resources policy focused on employee recruitment and retention, talent development and continuous professional development for Grifols’ global talent pool
- Advocacy of the “One Grifols” philosophy to continually pursue knowledge-sharing and innovation to drive value-generating opportunities via multi-disciplinary initiatives and teams

Grifols’ primary areas of action in 2018, in line with its current strategic plan, centered on sustainable growth and global expansion; leadership, expansion and diversification of the plasma-center network; innovation; teamwork; and talent development.

HIGHLIGHTS OF GRIFOLS’ 2018-2022 STRATEGIC PLAN

ONE GRIFOLS

CUSTOMER CENTRICITY
- Enhance organization-wide focus on meeting and exceeding customer needs to build sustainable, competitive advantage

BUSINESS OPTIMIZATION
- Identify opportunities to improve productivity and optimize value

INNOVATION PERFORMANCE
- Leverage technological advancements to deliver innovative solutions and transformational breakthroughs

EXPANSION
- Expand globally with the U.S. as the anchor market

DIGITAL STRATEGY
- Build digital capabilities to deliver better outcomes

TALENT PROMOTION
- Firm and robust human resources policy focused on employee recruitment and continuous professional development for Grifols’ workforce
SERVICES THAT GENERATE VALUE AND NEW OPPORTUNITIES

GRIFOLS ENGINEERING

In-house engineering to improve productivity

Grifols Engineering strengthens company’s industrial capabilities through its accumulated over the decades experience on biotechnological process engineering as value added.

Grifols origins traced back to 1940. Since then, in-house engineering has played a key role in developing and improving its productivity.

Grifols Engineering is a company specialized in project management for manufacturing processes and plants and in developing and producing special equipment for the biotech industry, complying with the European health authorities and the FDA.

GRIFOLS VIAJES

A global purchasing power to ensure solutions and savings for every travel need

As a global company with a remarkable presence in the U.S. and subsidiaries in 30 countries, Grifols has its own travel agency, Grifols Viajes, to streamline and manage efficiently those travel needs of its talent pool.

Grifols Viajes provides company’s staff with the flexibility that they need and increases their work-life balance.

Grifols Viajes also coordinates the development of corporate events, congresses and other internal meetings.