

DAY





**In the biomedical and biotechnology industry, Pharma1humanitas Holdings Ltd it is a leading innovator and consultant in: hospital, clinical, laboratory, research and development fields. Our partners suppliers with us, supply refrigeration equipment and innovative solutions for the design of technological cold chain system & hi-tech management in blood bank sector.**



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## Hospital drone



## Blood Bank Refrigerator





## Blood collection mixer



## Blood donation chairs







## Blood bag sealer



## Centrifuges blood

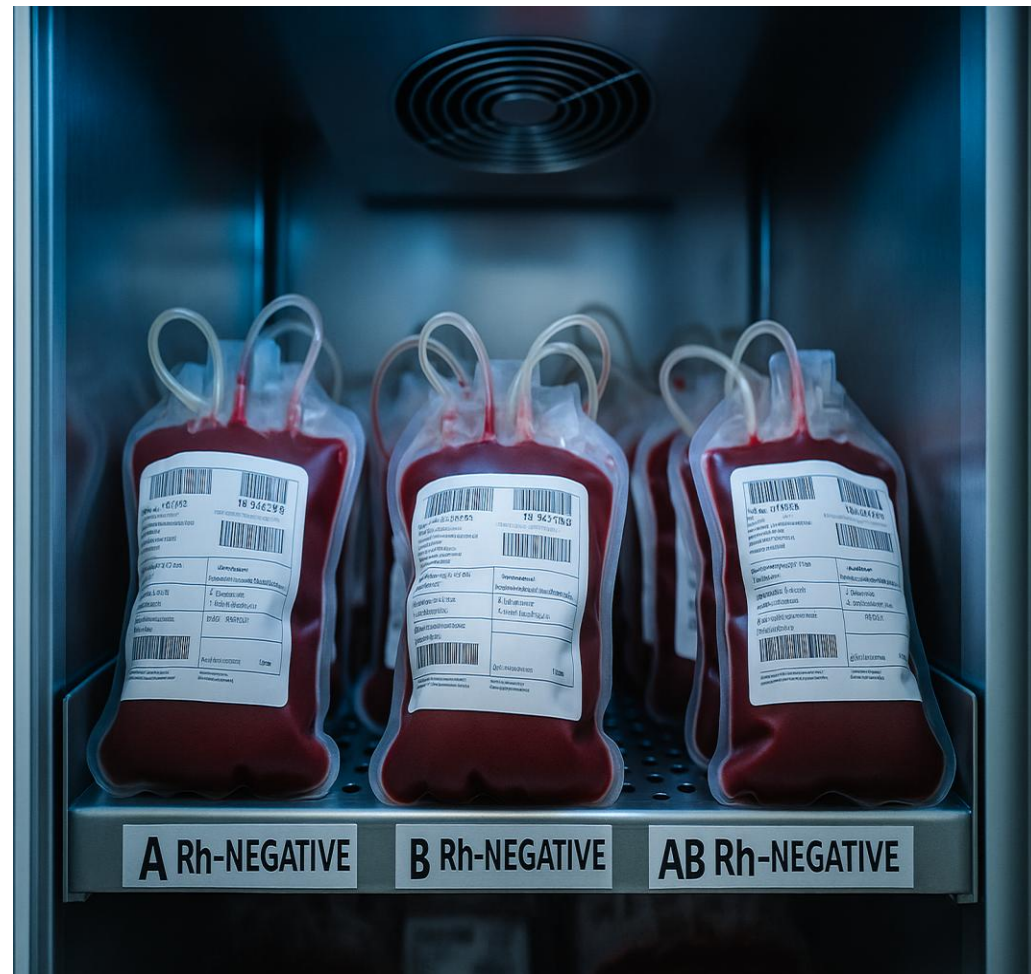




## BLOOD AUTOTRANSFUSION



## BLOOD MANAGEMENT SYSTEM







**Using drones to transport red blood bags can significantly reduce delivery times, especially in critical situations where every minute counts. It could also help hospitals maintain an adequate supply of blood for surgeries and trauma care.**



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**The speed and efficiency of drones can be game-changers in healthcare logistics. By bypassing traffic and direct routes, drones can quickly deliver blood and other medical supplies to hospitals, especially in remote or congested areas. This technology not only improves patient outcomes but also enhances overall operational efficiency for healthcare providers. The drones will save human beings and help people.**







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PROVIDE INNOVATIVE EQUIPMENT TO BUILD A BLOOD BANK WITH REFRIGERATORS WITH EXCELLENT COLD CHAIN FOR COLLECTION, PREPARATION AND STORAGE OF BAGS OF RED BLOOD CELLS, WHITE BLOOD CELLS AND PLASMA. PLATELET CONCENTRATE CAN BE STORED AT  $-80^{\circ}\text{C}$  IN A MOBILE CLINICAL, OR INSIDE THE HOSPITAL COMPLEX WITH INNOVATIVE NANOTECHNOLOGICAL EQUIPMENT FOR THE CLOSED LIQUID NITROGEN COOLING SYSTEM ( $\text{In}_2$ ).

RFID: SAFETY AND TRACEABILITY IN ACCESS WITH THE SYSTEM

THE PLANT WILL PRESENT A STERILIZATION CENTRAL FOR GRID SHELVES AND A CENTRIFUGE PROCESSING WITH PLASMA TEST TUBES







**FUNDACIÓN DEMOCRÁTICA ITALO AMERICANA, FDIA -REPRESENTAÇÃO PERMANENTE PLAYS A KEY ROLE IN ENSURING A CONSTANT AND SAFE SUPPLY OF HOSPITAL EQUIPMENT THROUGH THE CONTRACTOR DENOMINATED PHARMA1HUMANITAS HOLDINGS TLD FOR THE SUPPLY OF THE HOSPITAL EQUIPMENTS SUCH TRANSFUSION AND COLD CHAIN OF BLOOD AND PLASMA.THANKS TO THE COMMITMENT OF ITS MEDICAL EQUIPMENT SUPPLIERS, PATIENTS SUFFERING FROM CHRONIC DISEASES, VICTIMS OF ACCIDENTS OR UNDERGOING SURGERY CAN RECEIVE THE TRANSFUSION EQUIPMENT THEY NEED TO SURVIVE. IN ADDITION TO SAVING LIVES, DONATING FUNDS TO PURCHASE EQUIPMENT TO MANAGE BLOOD IS ALSO AN OPPORTUNITY TO MONITOR YOUR OWN HEALTH AND ACTIVELY CONTRIBUTE TO THE WELL-BEING OF THE COMMUNITY**



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**FDIA**

FUNDACIÓN DEMOCRÁTICA ITALO AMERICANA,  
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**The blood equipment complies with all safety standards, such as those established by the World Health Organization (WHO) or local authorities (Ministry of Health, AIFA, EMA, FDA, etc.). Possible Operation Modes for the future project that will be funded by investors:**

**Donation or supply at minimal cost: The NGO can collect and distribute equipment for free or at a low supply cost to support humanitarian operations in future health-care emergency scenarios.**







**Innovation**

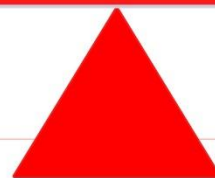
**QualitySafe**



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**Excellent  
Service**

**Research**





## BLOOD & PLASMA MANAGEMENT SMART SUPPLY CHAIN

PHARMA1HUMANITAS SCENARIO OF WORK				
✓ Blood Bank Module	✓		✓	✓
✓ Donor Collection Module	✓		✓	✓
✓ Tissue Tracking Module	✓		✓	✓
✓ Solid traciebility Tracking Module	✓	Scan QR-CODE	✓	✓
✓ Blood Utilization Module	✓		✓	✓
✓ Reference Lab Module	✓		✓	✓
✓ Bedside Barcoding Module	✓		✓	✓
✓ Inventory Management Module	✓		✓	✓
✓ Stem Cell Processing Module	✓		✓	✓
✓ Quality Indicator Module	✓		✓	✓





**PARTNERSHIP WITH COMPANIES OR HEALTH ORGANIZATIONS: THE NGO CAN COLLABORATE WITH HOSPITALS, BLOOD TRANSFUSION CENTERS OR OTHER ORGANIZATIONS TO FACILITATE THE SUPPLY OF EQUIPMENT. HUMANITARIAN AND DEVELOPMENT PROJECTS: THIS PROJECT IS AIMED AT IMPROVING ACCESS TO CARE IN DEVELOPING COUNTRIES**



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## BLOOD & PLASMA MANAGEMENT SMART SUPPLY CHAIN



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**AUTOMATED COLD CHAIN ROBOTIC TECHNOLOGICAL SYSTEM FOR LOADING AND UNLOADING IT IS DESIGNED TO ENHANCE EFFICIENCY, SAFETY, AND PRECISION.**



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## Cold chain & refrigerator system with plasma bags and blood tubes inside



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## Cold chain & refrigerator LN2 design & plan



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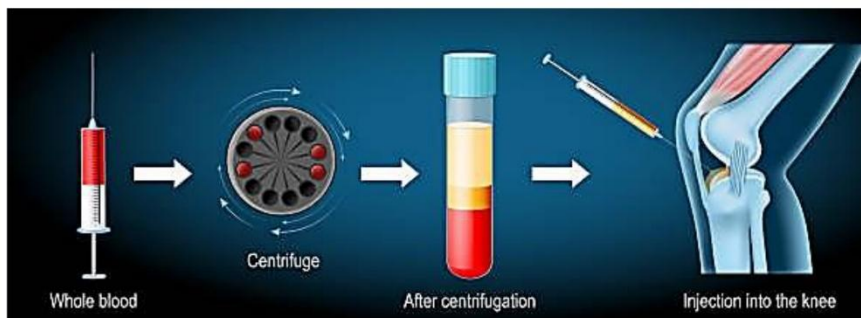
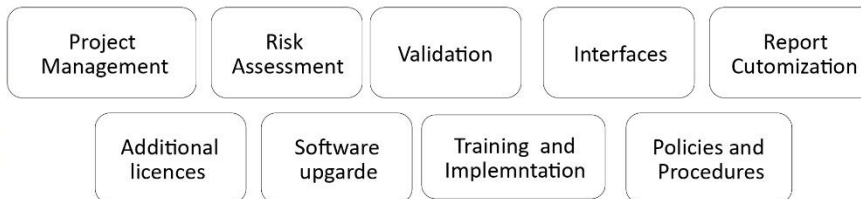


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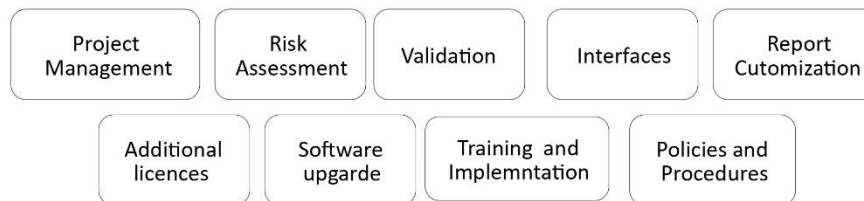


## Cold chain & refrigerator system with plasma bags and blood tubes inside





## Cold chain & refrigerator system with plasma bags and blood tubes inside



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Pharma1humanitas holdings ltd with different suppliers and engineers companies, we carry out:

EPC (Engineering, Procurement, and Construction) turnkey project focused on establishing a plasma cold chain system for the safe handling and processing of blood products, particularly plasma.

### Project Overview: Plasma Cold Chain System

**Objective:** To design and implement a plasma cold chain system that ensures the safe storage, transportation, and transfusion of blood plasma, adhering to regulatory standards for maintaining product integrity and quality.

### Key Components:

#### 1. Plasma Collection and Processing:

- **Apheresis:** Collection of plasma using apheresis technology, which separates plasma from other blood components while ensuring high-quality collection.
- **Chromatographic Fractionation:** An industrial process for purifying various factors from plasma, critical for pharmaceutical applications.

#### 2. Freezing and Storage:

- **Plasma Freezing:** Implementing horizontal freezing technology to achieve -30°C in the center of the plasma bag within 60 minutes, as per Recommendation No. (95) 15.
- **Storage Conditions:** Maintaining optimal conditions in blood refrigerators to ensure the integrity of plasma until it's needed.

#### 3. Transportation:

- **Transport Logistics:** Developing a protocol for transporting blood units from the blood bank to peripheral hospitals, ensuring temperature control and proper handling.

#### 4. Transfusion Process:

- **Preparation and Allocation:** Blood bank staff will allocate and label blood units based on specific patient needs.
- **Manual Unloading:** Establishing procedures for the safe unloading of bags from the refrigerator at the hospital.

#### 5. Handling Unused Bags:







- **Return Process:** Protocols for returning unused bags to the blood bank for integrity analysis and reallocation, ensuring they remain viable for future use.

### Regulatory Compliance:

- Ensure that all processes comply with health and safety regulations, including blood safety standards and quality assurance protocols.

### Risk Management:

- Identify and mitigate risks associated with temperature fluctuations, contamination, and handling errors during collection, transportation, and transfusion.

### Implementation Timeline:

- Define a detailed project timeline, outlining phases for engineering design, procurement of equipment, construction, and operational testing.

### Training and Support:

- Develop a training program for personnel involved in plasma collection, storage, and transfusion to ensure compliance with best practices.

### Scenario of EPC project:

This EPC turnkey project aims to enhance the efficiency and safety of plasma handling, ensuring that all aspects—from collection to transfusion—are optimized for quality and compliance. By focusing on these elements, the project can contribute to improved patient outcomes and operational effectiveness for the blood bank and peripheral hospitals.





**CREATING A CASH FLOW STATEMENT FOR ESTABLISHING A PLASMA BANK INVOLVES DETAILING THE EXPECTED INFLOWS AND OUTFLOWS OF CASH THROUGHOUT THE PROJECT. HERE'S A BREAKDOWN OF THE VARIOUS EXPENDITURES (OUTFLOWS) YOU MIGHT ENCOUNTER DURING THE SETUP AND INITIAL OPERATION OF A PLASMA BANK.**

## Cash Flow Expenditures for Establishing a Plasma Bank

### 1. Initial Capital Expenditures:

- **Land/Building Costs:** Purchase or lease of facility space.
- **Renovation and Construction:** Modifications to meet regulatory standards and operational needs.
- **Equipment Purchase:**
  - **Apheresis machines**
  - **Refrigeration units**
  - **Freezers (horizontal freezing systems)**
  - **Chromatography systems**
  - **Laboratory equipment (e.g., centrifuges, incubators)**

### 2. Operational Setup Costs:

- **Utilities Installation:** Water, electricity, HVAC systems.
- **Furniture and Fixtures:** Office furniture, waiting areas, and storage solutions.
- **IT Systems:** Software for inventory management, patient records, and compliance tracking.

### 3. Regulatory Compliance:

- **Licensing and Permits:** Fees for necessary certifications and regulatory approvals.
- **Quality Assurance Systems:** Implementation of quality control measures and documentation processes.

### 4. Staffing Costs:

- **Hiring Personnel:** Recruitment costs for medical, administrative, and support staff.
- **Training Programs:** Costs for training staff in procedures, safety, and compliance.
- **Salaries and Benefits:** Ongoing expenses for employee compensation.







## 5. Operational Expenditures:

- **Supplies and Consumables:** Medical supplies, collection bags, and testing reagents.
- **Maintenance Costs:** Ongoing maintenance for equipment and facility upkeep.
- **Insurance:** Coverage for facility, equipment, and liability insurance.

## 6. Marketing and Community Outreach:

- **Awareness Campaigns:** Costs for promotional activities to educate the community on plasma donation.
- **Partnerships:** Collaborations with hospitals and organizations for outreach.

## 7. Transportation and Logistics:

- **Transportation Costs:** Vehicles or logistics services for transporting plasma to and from hospitals.
- **Cold Chain Management:** Equipment and supplies for maintaining temperature during transport.

## 8. Miscellaneous Expenses:

- **Contingency Fund:** Reserve for unexpected expenses.
- **Legal and Consulting Fees:** Professional services for legal compliance and operational guidance.

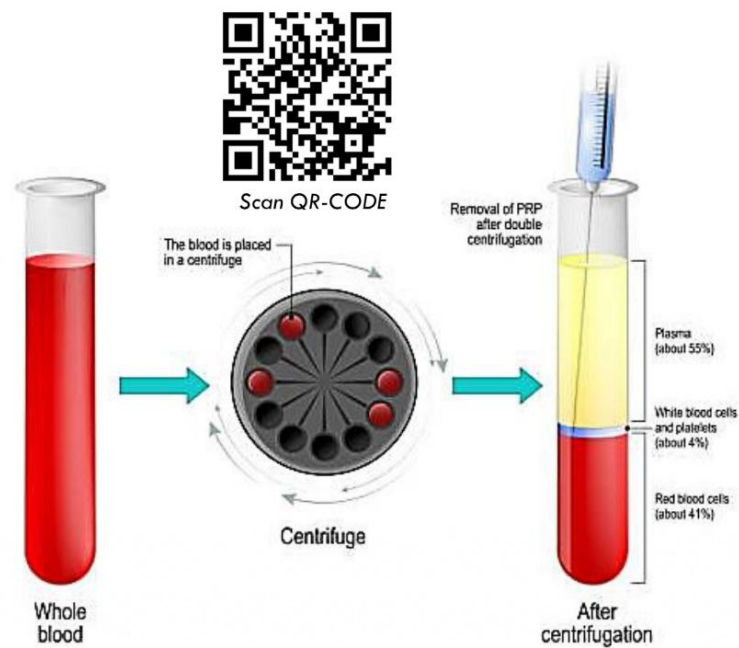
## Projected Cash Flow Summary:

1. **Total Initial Expenditures:** Sum of all capital and operational setup costs.
2. **Monthly Operational Expenses:** Recurring costs for staffing, supplies, utilities, and maintenance.





## Platelet-rich plasma



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Platelet-rich plasma (PRP) is a concentrate of platelets and growth factors derived from whole blood. It's commonly used in various medical and aesthetic procedures to promote healing, tissue regeneration, and enhance recovery.

### Process of Obtaining PRP

#### 1. Blood Collection:

- Blood is drawn from the patient, typically 10-60 mL depending on the procedure and desired volume of PRP.

#### 2. Centrifugation:

- The collected blood is placed in a centrifuge.
- **Centrifuge Settings:**
  - Initial spin (soft spin): This separates the blood into three layers—red blood cells at the bottom, a buffy coat (white blood cells and platelets) in the middle, and plasma at the top.
  - Depending on the protocol, a second spin (hard spin) may be used to further concentrate the platelets from the buffy coat.

#### 3. Extraction of PRP:

- After centrifugation, the PRP layer (the top layer containing plasma and platelets) is carefully extracted using a syringe.
- The PRP may be further processed to isolate the platelets or to concentrate them as needed.







### Types of PRP

- **Pure PRP:** Contains a high concentration of platelets but minimal leukocytes.
- **Leukocyte-Rich PRP:** Contains a higher concentration of leukocytes and is sometimes preferred for its additional growth factors.

### Applications of PRP

1. **Orthopedic Medicine:** Used to treat injuries, tendonitis, and joint pain by promoting healing in damaged tissues.
2. **Aesthetic Procedures:** In facial rejuvenation and hair restoration, PRP is injected to stimulate collagen production and improve skin texture.
3. **Surgical Procedures:** PRP may be applied during surgeries to enhance healing and reduce recovery time.

### Advantages of PRP

- **Autologous Source:** PRP is derived from the patient's own blood, reducing the risk of allergic reactions or disease transmission.
- **Minimally Invasive:** The process involves a simple blood draw and injections, making it less invasive than surgical options.
- **Natural Healing:** PRP leverages the body's natural healing processes to enhance recovery.





STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> <li>• Easy to access &amp; user friendly               <ul style="list-style-type: none"> <li>• Increase efficiency</li> </ul> </li> <li>• Future cooperation maybe in regional blood supply</li> <li>• Blood availability in the rural areas made easy</li> <li>• Prevention of blood shortage               <ul style="list-style-type: none"> <li>• Email alerts &amp; SMS alerts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Start-up company; spin-off new buyer's brand name</li> <li>• Challenges in keeping the website updated with blockchain</li> </ul> <div data-bbox="1265 486 2252 939"> </div>

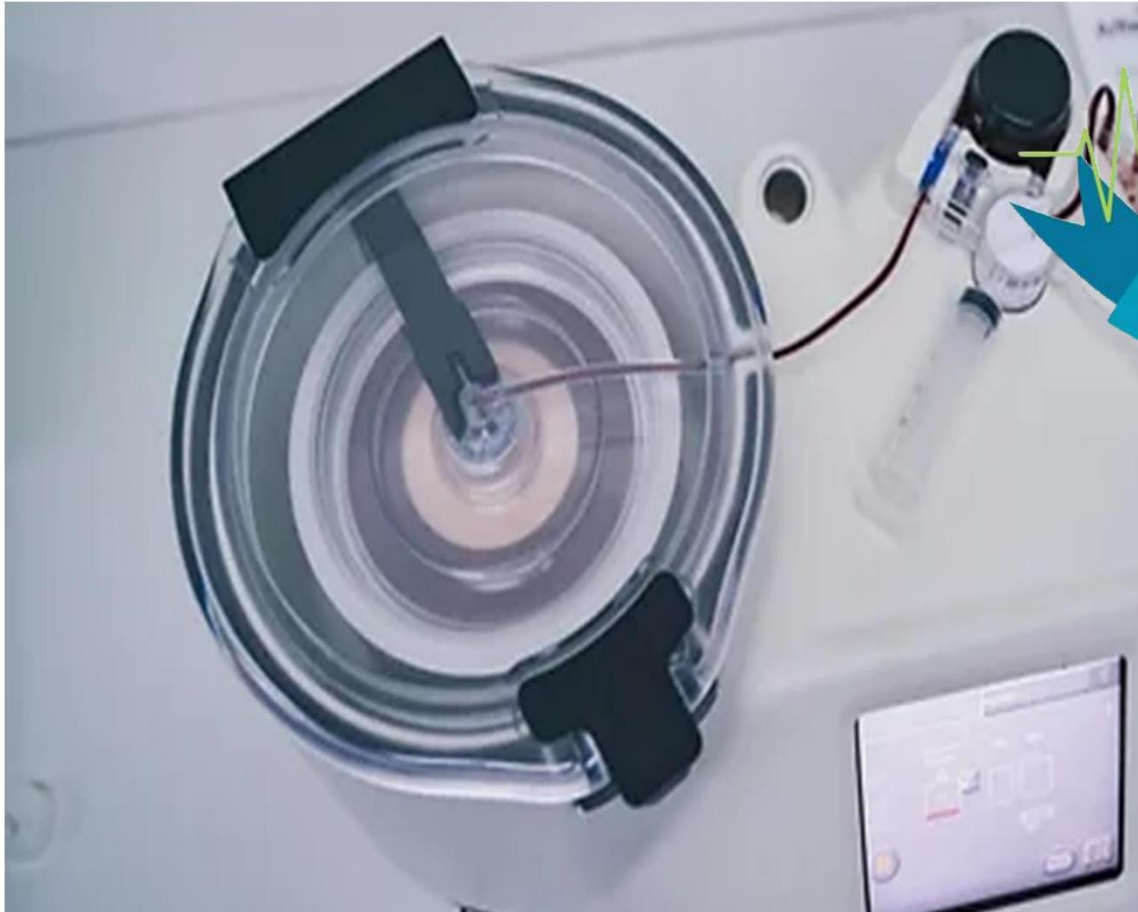






OPPORTUNITIES	ETHICAL & LEGAL PURPOSE
<ul style="list-style-type: none"> <li>Blood donor recruitment strategies</li> <li>Include blood products transfusion</li> <li>BLOCKCHAIN and GPS Tracking system               <ul style="list-style-type: none"> <li>App development</li> </ul> </li> <li>Humanitarian support               <ul style="list-style-type: none"> <li>Help people</li> <li>Safe human-beings</li> </ul> </li> </ul>	<p><b>Ethical Purpose and Morality:</b> The suppliers and factories commits to the highest ethical standards in the sale of plasma refrigerators and related equipment. The Seller acknowledges the importance of these products in the medical field, specifically for blood banks and hospitals, and affirms the following:</p> <p><b>Safety and Compliance:</b> The Seller ensures that all equipment complies with relevant health and safety regulations, including those set by the CE &amp; European standard and other applicable authorities and all legal certification.</p> <p><b>Transparency:</b> The Seller will provide clear and accurate information regarding the specifications, features, and condition of the equipment to ensure informed decision-making by the Buyer.</p> <p><b>Support and Training:</b> The Seller will offer necessary support and training for the proper use and maintenance of the equipment, recognizing its critical role in patient care.</p> <p><b>Environmental Responsibility:</b> The Seller is committed to environmentally responsible practices in the manufacturing and disposal of medical equipment. The Sellers &amp; suppliers choose of Pharma1humanitas holdings ltd hereby declares that: The equipment listed above is free from any liens or encumbrances. The Sellers &amp; third parties in this project has the legal right &amp; licences to sell the equipment. The Sellers has inspected the equipment and accepts it in its current condition. The images are for information purposes only; at the time of sending a letter of intent by the buyer, certifications and floor plans of the many suppliers and factories chosen by our panel of experts will be given. Illustration &amp; description and data sheet could be change without a notice.</p>









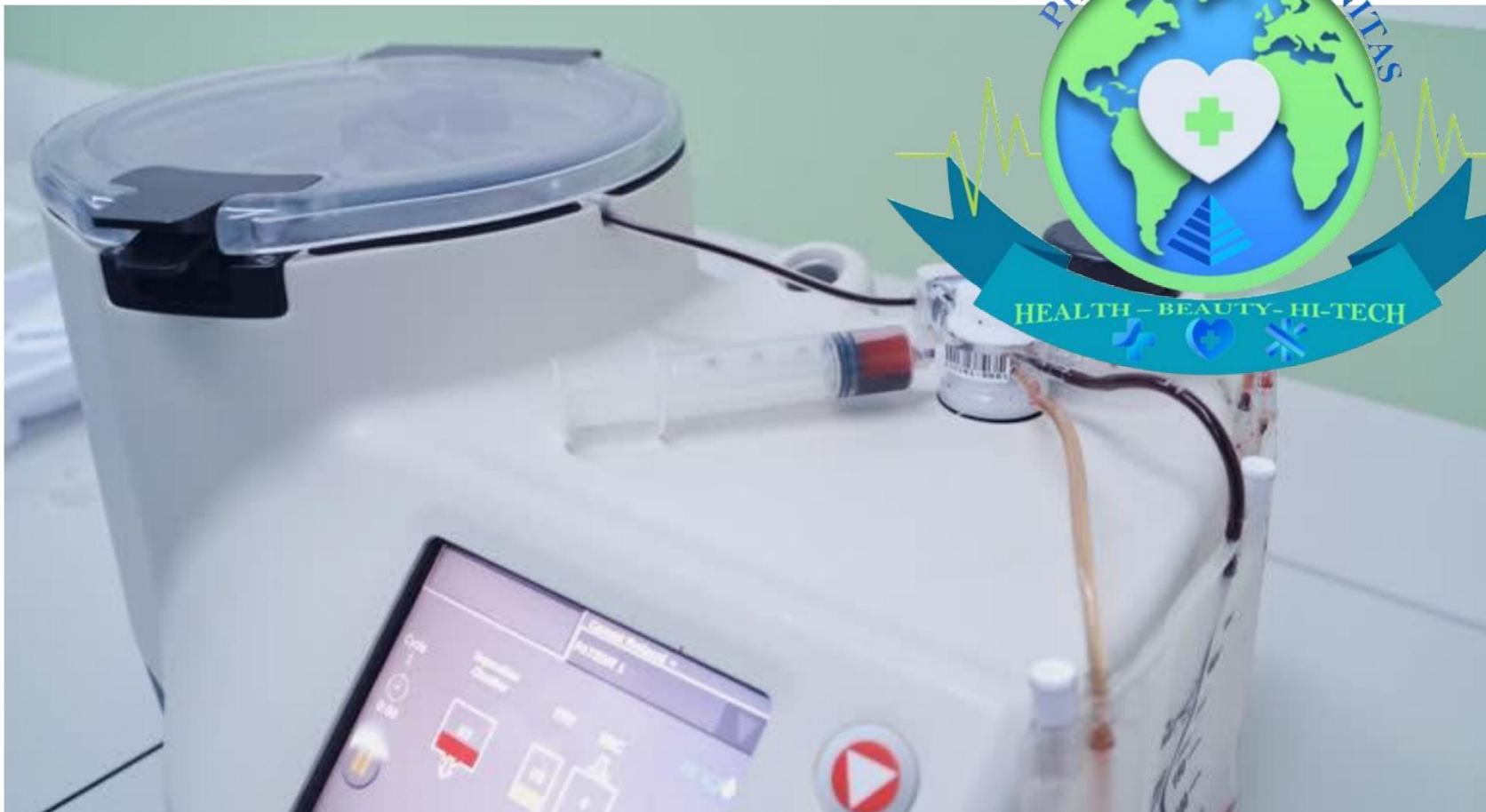


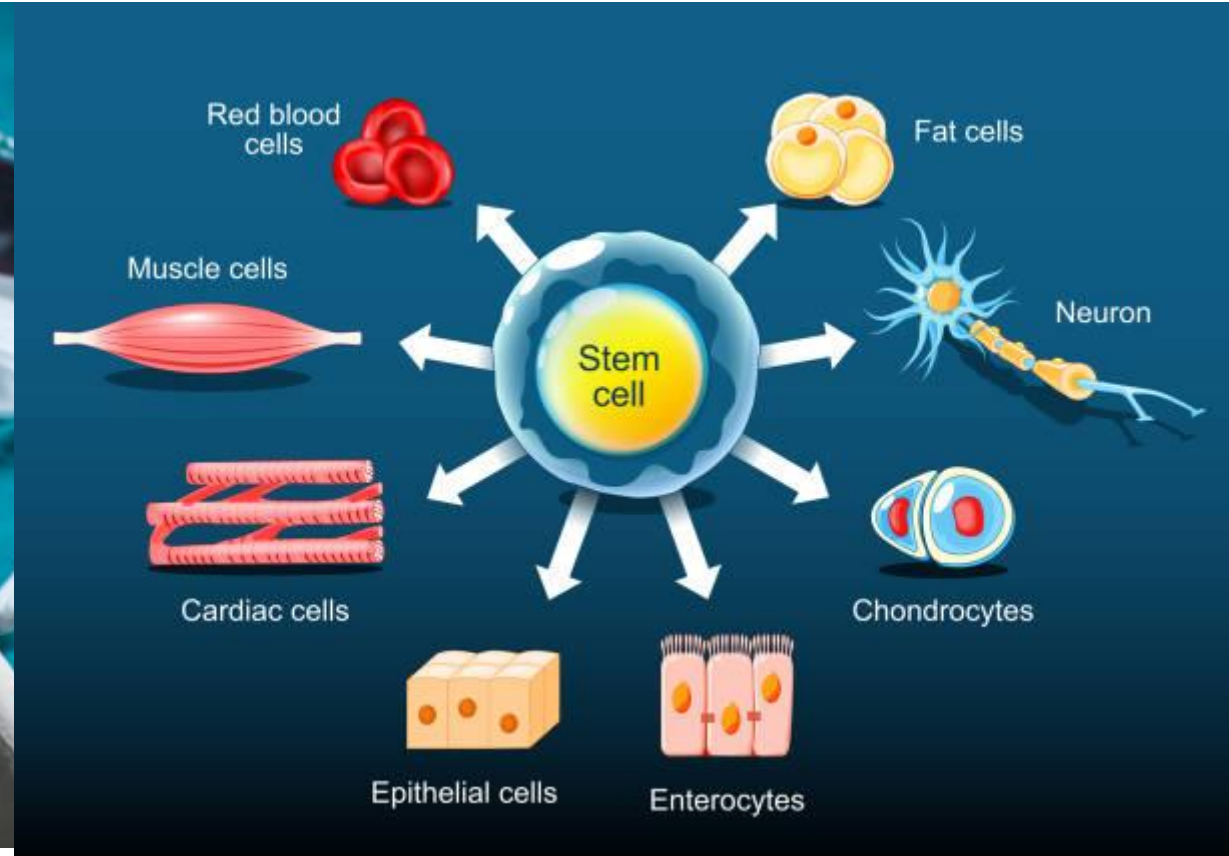
## *Pharma 1 humanitas plasma equipment turnkey project*



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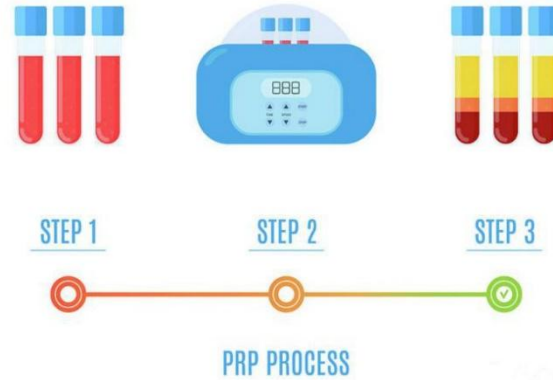








## PLATELET-RICH PLASMA



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