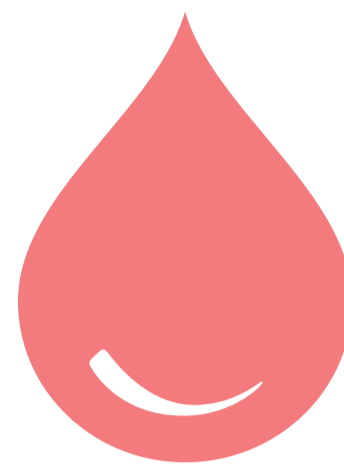


2021



IN TEN KEYSTONES

ANNUAL REPORT 2021



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François Toujas
PRESIDENT OF EFS

“ WE FORM A UNIQUE VALUE CHAIN SERVING THE MEDICINE OF THE FUTURE ”

In 2020, you entered your third term of office with three strategic priorities, namely modernising blood collection, health sovereignty and innovation. What progress has the Establishment made in these three key areas in 2021?

The consequences of the pandemic continued to be strongly felt this year. We have had to continue to adapt to this situation, particularly by rolling out blood donation by appointment and by widely adopting the remote medical assistance approach in blood collection. Digital advances through the provision of tools to improve donor relations have continued.

But we have faced a real shortage of resources and increasing difficulties in mobilising donors, which has led us to organise repeated donation appeals. Our calls have been heard, and were echoed by our voluntary and public sector partners. Finally, mobilisation and team solidarity did not waver during this difficult period despite the fact that many were affected by the pandemic and its aftermath. I am grateful to one and all. On the other hand, we were not able to achieve the desired level of plasma for fractionation although the need for plasma-derived medicinal products continues to grow. We are preparing an ambitious plan to develop these plasma collections in the future. We are also consolidating our participation in the French biomanufacturing industry to which our immunotherapy and regenerative medicine research projects contribute, along with our platforms for advanced therapy medicinal products, which were highly successful in 2021. Together, they form an integrated and recognised value chain, unique in France, to serve the healthcare of the future.

What other topics have you worked on in a bid to modernise the Establishment?

Our business is complex and regulated. It requires a vast number of procedures which, taken collectively, can weigh heavily on our teams. This is why we have embarked on a far-reaching project which aims to simplify those procedures. But our modernisation will

essentially be achieved through our information systems. After an initial phase to consolidate existing tools, which is now nearing completion, our digital transformation is continuing and is reflected in major investment choices. I certainly expect these changes to bring tangible results in terms of modernisation and simplification for users.

The teams have worked tirelessly to bring these advances to fruition. How will the Establishment recognise their efforts?

I initially negotiated with our supervisory authorities to obtain a pay rise commensurate with the “Séguir 1 de la Santé” reform (a major French salary consultation for healthcare workers) for laboratory technicians and nurses, who make up about 70% of our teams. I have also introduced significant individual increases for other members of staff. Overall, 95% of our employees received a pay rise. This is a historic increase amounting to 20 million euros over a full year. But recognition is also about improving working conditions, something I pay close attention to. We will continue our efforts with particular focus on the organisation of our blood drives.

EFS is also pursuing its international cooperation actions. How have you continued these assignments despite travel restrictions?

Our international cooperation actions play a strategic role in promoting our model, and although they may have slowed, they have been ongoing. For example, we held a Franco-Chilean blood donation webinar during the health crisis and welcomed foreign delegations (notably from Cameroon and Lebanon) at the earliest opportunity. We are also very involved in preparatory work for the revision of the blood directive. The *position paper* we submitted to the European Commission clearly sets out our position. This revision must be based on our ethical principles of voluntary, anonymous, unpaid and responsible donation. Armed with these principles, we are “giving blood the power to heal”, as our new signature reads. By collecting this precious resource, blood, making it safe throughout the transfusion chain, and developing treatments based on our expertise in blood cells.

OUR DIGITAL TRANSFORMATION REQUIRES SIGNIFICANT INVESTMENTS FROM WHICH I AM EXPECTING TANGIBLE RESULTS TO MODERNISE THE ESTABLISHMENT AND SIMPLIFY ITS PROCEDURES.

GIVING... **THE COMMITMENT TO TRANSFORM OURSELVES**

HOW TO MODERNISE THE ESTABLISHMENT AND WHY



ROUND TABLE WITH

CATHY BLIEM,
Managing Director
of the Blood Transfusion Chain,
Therapeutic Activities
and Development

BRUNO DANIC,
Director of EFS Bretagne

FRÉDÉRIC GAZDA,
President's Advisor

MARIE-ÉMILIE JÉHANNO,
Managing Director
of Resources and
Performance

PASCAL MOREL,
Responsible Person for LBP
and Director of Research and
Technology Transfer

NATHALIE MORETTON,
Chief of Staff

PHILIPPE MOUCHERAT,
Communication, Branding
and Marketing Manager

Members of the EFS Executive Committee unveil the Establishment's transformation challenges and major advances.

Despite pressure in terms of supplies and recruitment, how did the transfusion chain continue the transformation process throughout 2021?

Cathy Bliem – The main challenge we have faced in bringing about our transformation is having to adapt to an ever-changing environment. The Establishment did this by continuing to develop blood donation by appointment and remote medical assistance for blood collection (RMA) while coping with the health crisis and its impact. It faced major recruitment problems, high absenteeism due to the pandemic and reduced donor mobilisation.

Bruno Danic – 2021 was a pivotal year which allowed us to learn lessons from the health crisis and identify what we need to work on for the future, i.e. the need to analyse organisational problems around donor collection, to fully structure our approach and simplify our procedures in order to regain the flexibility so vital to our transformation projects.

Pascal Morel – 2021 heightened the need for transformation as our blood product reserves reached consistently critical levels for the first time in our history. In order to guarantee both our self-sufficiency in whole blood and our health sovereignty in terms of plasma, RMA together with collections by appointment have become vital alongside an organisational approach that still leaves room for spontaneous donation.

Philippe Moucherat – Indeed, appointments have transformed not only the operational collection model but also the donor decision-making process, which now requires an additional step as donors have to plan their visit. The pressure on stocks which surfaced in 2021 also led to several donation appeals which, whilst being relatively effective, nevertheless caused fits and starts. In order to reduce these, our marketing approach needs to become more digital, bearing in mind the fact that donors now have greater control and can choose their appointment times.

The health sovereignty of our country, particularly in plasma, is one of the Establishment's strategic objectives. Why are drastic changes also needed?

Cathy Bliem – The need for plasma for fractionation, which is used in the production of medicines, is seeing exponential growth worldwide. The Establishment must be in a position to collect 1.4 million litres per year by 2026 compared to today's figure of 900,000 if it is to meet approximately 50% of French patients' needs and improve our health sovereignty. This is impossible with our current collection system, which is geared primarily to ensuring our self-sufficiency in whole blood. With this in mind, in 2021 we initiated discussions to draft a Plasma Plan looking ahead to 2026.

Bruno Danic – Some of the plasma used in France is currently imported from the US where donations are paid. This is therefore also an ethical issue for us, particularly since this paid model has been hard hit by the health crisis, which has penalised patients waiting for treatment.

These products may seem far removed from our mission because of their medicine status. But because EFS has the monopoly on collection, it has a major role to play in improving the situation. This is why we have devoted considerable human and social sciences research to plasma donation.

Philippe Moucherat – It means mobilising donors by bringing plasma and health sovereignty into the public debate in a bid to raise this public health issue.

Cathy Bliem – But health sovereignty is also intrinsically linked to advanced therapy medicinal products (ATMP) and biomanufacturing. This is a field in which EFS is a key public health player through numerous research projects as well as production. Faced with American CAR-T cells that cost 350,000 euros a dose, the challenge is to produce medicines *made in France* that are competitive for patients.

Nathalie Moretton – As Cathy has said, our establishment contributes to the health sovereignty of our country in various ways, through its biomanufacturing activity and obviously by guaranteeing self-sufficiency in labile blood products. The latter was guaranteed right across France in 2021 by mobilising the teams and as a result of ongoing dialogue with our public sector stakeholders. Donor associations, local authorities, French regional health authorities (ARS) and prefectures have been committed to our cause, allowing us to deliver our services to the public despite difficult conditions.

Frédéric Gazda – As a key player in the health sovereignty of our country, discussions with our supervisory ▶

THE COMMIT TRANSFORM



CATHY BLIEM,
MANAGING DIRECTOR
OF THE BLOOD TRANSFUSION CHAIN,
THERAPEUTIC ACTIVITIES AND DEVELOPMENT



MARIE-ÉMILIE JÉHANNO,
MANAGING DIRECTOR OF
RESOURCES AND PERFORMANCE



PASCAL MOREL,
RESPONSIBLE PERSON
FOR LBP

► authorities were extended in 2021 to cover topics such as plasma and biomanufacturing, not only through ongoing dialogue with advisers to the French Ministry of Solidarity and Health, but also through our advocacy actions.

How is efficiency also a major driving force for modernisation?

Bruno Danic – Efficiency, not to be confused with productivity, is all about managing public money well, through an optimised organisation in particular. In this regard, it is an important driving force for modernisation, encouraging us to constantly improve, including financially, in order to be even more effective in carrying out our missions.

Marie-Émilie Jéhanno – 2021 drew to a close with positive results, achieved through significant State subsidies, savings on our purchases, a significant property sale in the North and a reworked circuit for handling transfusion-related disputes. However, we still need to remain vigilant over the next few years. With this in mind, the exceptional price increases, introduced in early 2022, are good news, namely +3.3% for labile blood products and +8.4% for plasma. These price increases and the savings we make allow us to finance salary increases as well as our modernisation and transformation projects.

Frédéric Gazda – In 2021, we also started to adapt our transformation plan in the light of the health crisis. And in this we received the support of our supervisory authorities.

This efficiency drive involves simpler procedures and more modern tools, in particular. What progress has the Establishment made?

Marie-Émilie Jéhanno – The need to simplify our procedures comes from the complexity of our activity. We took a step in this direction in early 2022. Our investments reached an all time high of 48 million euros in 2021 to modernise our machines, real estate infrastructure and digital tools. Work on modernising our information system has stepped up in order to pay off our technical debt and consolidate tools that did not give user satisfaction, such as our bandwidth and the security of our networks. Some of

2021 HIGHLIGHTED THE NEED FOR TRANSFORMATION AS OUR BLOOD PRODUCT RESERVES REACHED CONSISTENTLY CRITICAL LEVELS FOR THE FIRST TIME IN OUR HISTORY.

this work will continue into 2022, while other work will allow us to develop new tools with new functionalities.

Bruno Danic – This consolidation of the existing system was crucial in 2021 because it met the urgent needs highlighted by users in a survey conducted when we were designing our Digital Transformation Master Plan (DTMP).

Marie-Émilie Jéhanno – In addition to digital tools, we have also invested heavily in renewing our blood collection and blood screening machines. The same applies to the renovation or relocation of certain premises. All of this was carried out in a bid to improve on-site working conditions for our teams.

Where and in what type of infrastructure were these property investments made?

Cathy Bliem – Mostly in Dunkirk and Toulouse where we have opened two new *Maisons du don*, or blood donation centres, offering a brighter and more spacious environment. Located in the city centre, they have an unprecedented donor capacity and ensure better working conditions for the teams.

Philippe Moucherat – In addition to improving the donor experience, these centres, redesigned in the colours of the new donor brand, reflect our modernisation and make it visible.

Cathy Bliem – But it is also about investing in the future in order to reach our ambitious plasma goals. Because these blood donation centres have a considerable potential for development and can make the donor experience more comfortable.

Bruno Danic – I would add our new technical preparation facilities in Rennes to these investments. More spacious and designed to adapt far more easily to changes in the transfusion chain, it also incorporates new equipment and more ergonomic workstations, which are very much appreciated by the teams. And this is important because a preparation facility covers numerous manual tasks.

All of these transformation projects require a close-knit team. What did the Establishment do in 2021 to mobilise its teams and boost its appeal?

Nathalie Moretton – We need to facilitate the implementation of our strategic priorities to simplify the actions

2.4 MILLION
appointments made online
compared to 800,000 in 2020

7.2 MILLION
visitors to the dondesang.efs.sante.fr
website compared to 3.4 million in 2020

95%
of EFS employees
received a pay rise

MENT TO OURSELVES



BRUNO DANIC,
DIRECTOR OF EFS
BRETAGNE

NATHALIE MORETTON,
CHIEF OF STAFF

PHILIPPE MOUCHERAT,
COMMUNICATION,
BRANDING AND MARKETING DIRECTOR

FRÉDÉRIC GAZDA,
PRESIDENT'S ADVISOR

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of the teams on the ground. Listening, adopting a cross-functional approach, flexibility and the flow of information are essential factors in achieving this goal.

Philippe Moucherat – Innovadon is one example of this collective dynamic serving the professional needs. It is neither a marketing project nor a collection project, but a transformation project affecting every process of our activity. The same applies to the information system, of course, first and foremost.

Bruno Danic – And to the collective dynamic between head office and the regions.

BECAUSE EFS HAS THE MONOPOLY ON COLLECTION, IT HAS A MAJOR ROLE TO PLAY IN IMPROVING THE PLASMA SITUATION.

Marie-Émilie Jéhanno – As for our appeal, this has been a strategic issue for several years. It came to the fore once again in 2021 with the “Ségur de la Santé”, in which EFS was not involved. Nevertheless, we succeeded in proposing a pay rise for 95% of our teams. We have also started to review our categorisation process in order to offer more dynamic career pathways. We are also currently reviewing how to adapt our organisation to improve the work-life balance. Last but not least, a major managerial programme will be rolled out in 2022 to support and equip our managerial team

Philippe Moucherat – Not forgetting our current efforts surrounding our image as an employer. We are lucky to work for a good cause that makes sense, but that's not enough. The specialist expertise we develop at EFS, taking all professions into account, gives us a cutting edge in terms of job content and employability. And that is precisely what we have to focus on.

PLASMA PLAN 2026 A PRIORITY FOR NATIONAL INDEPENDENCE AND ETHICS

Used to produce blood-derived medicines, which are vital for some patients, plasma demand is increasing by 8% per year worldwide. The 900,000 litres collected each year by EFS for the French Fractionation and Biotechnologies Laboratory (LFB) are not sufficient to cover our country's needs. France, like Europe, depends on plasma collected in the United States from paid donations for 65% of its supply. In 2021, the Establishment launched a Plasma Plan for 2026, with an annual production target of 1.4 million litres in order to cut this dependence to 50%. From an ethical perspective, the challenge is to be able to better meet

the needs of French patients while keeping donors safe. In the US, donors can give blood up to 104 times a year, compared with a maximum of 24 times in France. The 2026 Plasma Plan provides for significant human and material resources to recruit and retain new donors, and to encourage current and potential donors to give blood more than two or three times a year. But also to create new blood donation centres, either mixed (whole blood/plasma) based on the current model or dedicated entirely to plasma donation. And last but not least, to mobilise EFS teams in terms of donor recruitment and retention.

A STEP TOWARDS SIMPLIFICATION

In line with the efforts made by the State to simplify public services, EFS set out to simplify its processes in 2022. This approach has now become essential in order to achieve its objectives. All aspects of our daily work are affected. Over time and in response to both regulatory pressure and the need for harmonisation, even the most routine tasks have gradually become more complicated. This was likely inevitable, but it is high time to rethink the way tasks are carried out for maximum simplification.



This approach must be applied to all of the establishment's activities in a bid to improve the daily working life of the teams in the medical-technical services,

primarily the transfusion chain, as well as within the support functions. Each procedure will therefore be scrutinised, and some will be subject to impact analysis and feedback after a few months. We will have to decide whether they are really necessary and take greater care to ensure that they do not complicate the work of employees. As well as looking at what we can do to facilitate the process. Indicators will then be put in place to monitor and measure the effectiveness of these simplification strategies.



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TRANSFUSION SAFETY IN A TIME OF COVID AND EMERGING VIRUSES

SARS-CoV-2 continued to consume a lot of our energy in 2021 but did not hamper progress on other transfusion safety issues. **Pascal Morel, Responsible Person at EFS, gives us an overview of the issues at stake and the measures implemented.**

Ingenious solutions to overcome site closures

While the pandemic did not directly jeopardise the safety of blood products, “the continuity of transfusion was nevertheless put at risk for the first time in the history of EFS. For the first time, we were forced to close issuing sites due to staff shortages,” explains Pascal Morel. “These closures, which were few and far between and which never exceeded 72 hours, were decided in agreement with the partners and the ARS. They had no impact on patient care thanks to the solutions that were put in place.”

This situation arose through absenteeism due to the health crisis combined with difficulties the establishment faced

in recruiting staff in the context of a shortage of resources affecting the entire health sector. “Health professionals were in great demand all year long from vaccination centres and hospitals, some of which offered higher salaries and better benefits than we did” says Pascal Morel.

Against this backdrop, the Establishment came up with often ingenious solutions to guarantee the safety of transfusions. The simplest solution was to forge new functional links with nearby sites, after informing all of the stakeholders, and then to organise the logistics to ensure that the products reached the patients on time. “It should be emphasised that these closures were deemed acceptable even by our supervisory authorities, because safe solutions had been put forward,” concludes Pascal Morel.

The prevention of arbovirus transmission continues

In both 2021 and 2020, travel restrictions reduced the risk of arbovirus epidemics. Arboviruses are transmitted by mosquitoes and ticks. “But our country is still threatened by these emerging viruses.

Which is why we have continued our efforts to prevent their transmission by transfusion, primarily by conducting a study to map out the seroprevalence of these infectious diseases in France at a given period in time,” explains Pascal Morel. Known as EpiArboTiq, this study began in late 2021. It will include 50,000 donors (see page 14) and will focus initially on tick-borne encephalitis (TBE).

Routine screening for hepatitis E

Present in one in a thousand donors, the hepatitis E virus can cause severe illness in immunocompromised individuals, which is often the case with polytransfused patients. This is why EFS decided to repeat its proposed move towards the systematic screening of all donors in 2021. This decision was approved by the French General Directorate for Health (DGS) to allow screening to begin in 2023. “The work carried out in 2021 has enabled us to define the screening procedure which will be carried out in pools of six samples. An efficient and economically viable method,” according to Pascal Morel.

Increased efforts to prevent anaemia among donors

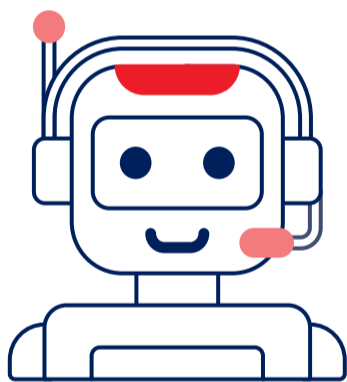
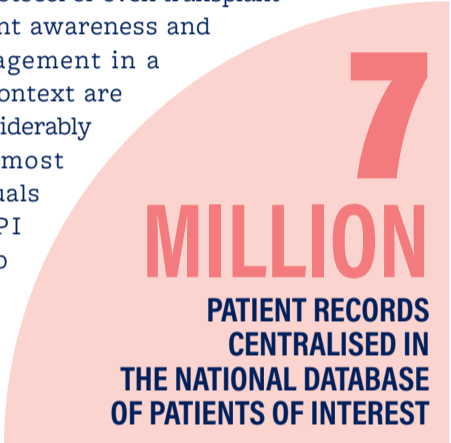
“29% of blood donors have low iron reserves. Although blood donation is not the causative factor, it should not exacerbate the situation. We must keep donors healthy.” This is the stance taken by Pascal Morel to explain the decision taken by EFS in 2021 to perform ferritin tests on donors at risk, who were identified in the Upradon study (see page 7). This is in addition to the numerous measures already in place to prevent anaemia among donors.

A single database for transfused patients

EFS is working on setting up a single database covering all of France to manage patients who have already been transfused at another site (see page 7). “This is a major safety issue for transfused patients for whom we centralise all relevant information, as a single establishment. We need to make this information available to all sites issuing blood products,” emphasises Morel.

A SINGLE DATABASE FOR BETTER PATIENT MANAGEMENT

Since April 2021, the information on patients presenting specific biological or medical characteristics has been centralised in a National Database of Patients of Interest (BNPI). Created from a combination of sixteen regional databases, this single database allows EFS teams to access information more quickly, across France, on patients presenting an irregular antibody, for instance, or on an instruction, a transfusion protocol or even transplant history. Patient awareness and patient management in a transfusion context are therefore considerably improved. Almost 3,000 individuals use the BNPI with 10,000 searches carried out on a daily basis.



C-CAD: AN EFS INNOVATION FOR AUTOMATED CAD AGITATION AND DURATION TRANSFER*

EFS Bourgogne-Franche-Comté has devised and developed a device to take over from the preparation teams by automating the CAD agitation and duration transfer*. These operations, which increase the safety of labile blood products prior to transfusion, have so far been carried out manually, which means preparation teams have to be on site every day, including Sundays. Unique in Europe, this device now improves the quality of life of the teams involved in this process. Currently in use at national level, this innovation could also be of interest to international blood transfusion stakeholders and could even be extended to the field of biotechnology.

FERRITIN TESTING TO PREVENT ANAEMIA AMONG DONORS AT RISK



Since 22 November 2021, EFS has been routinely screening ferritin levels in donors at risk of iron deficiency. This test identifies this deficiency. Those affected are then advised accordingly, thus preventing the onset of anaemia. It complements the measures

already in place, such as the pre-donation interview, the pre-donation haemoglobin test, the blood count and the recommended time interval between donations. The aims: to keep donors healthy but also to guarantee the self-sufficiency of EFS by preventing anaemia among regular donors. With this in mind, the collection teams also give donors advice on diets with a higher iron content.

EASING RESTRICTIONS ON DONATIONS FROM MEN HAVING SEX WITH MEN: A MAJOR STEP FORWARD

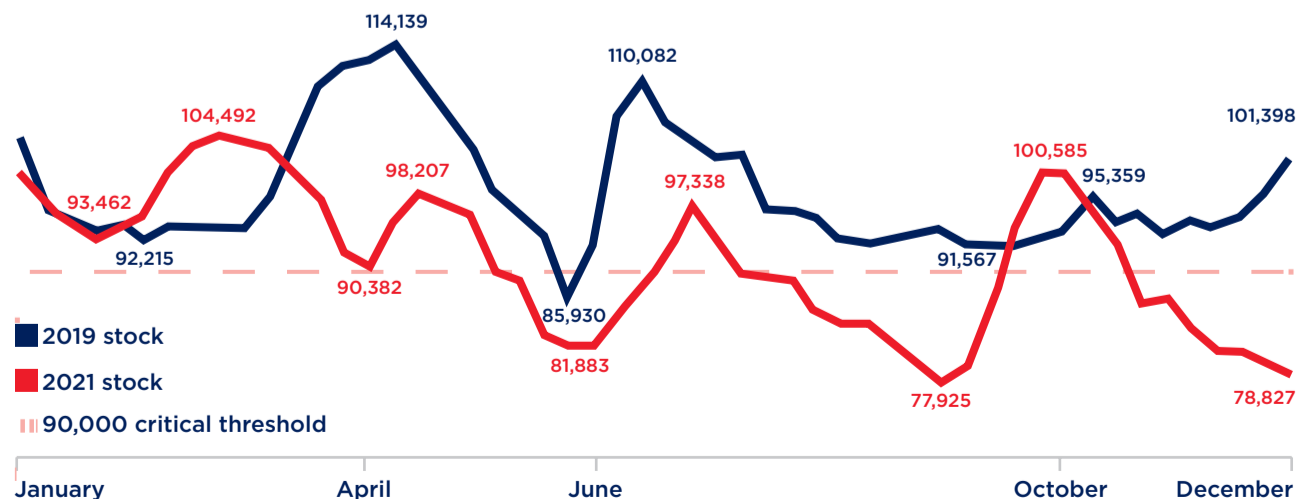
Since 16 March 2022, men who have sex with men (MSM) have been able to donate blood, plasma and platelets in the same way as all other donors. This easing of restrictions was implemented gradually, starting in July 2016 when their permanent ban on giving blood ended. Work was then carried out with a monitoring committee comprising institutions, health agencies, blood donor and patient associations, and LGBT associations. Step by step, this work led to the easing of restrictions. Today, the criteria for donation eligibility are the same for all donors, regardless of their gender and sexual orientation. However, they must still commit to having only one partner in the four months preceding the donation (a commitment that also applies to their partner).

HOW EFS ENSURED SELF-SUFFICIENCY

DESPITE HAVING THE LOWEST STOCKS IN ITS HISTORY

With increasingly more marked troughs throughout the year, EFS recorded the lowest stocks in its history in 2021, sometimes falling well below the critical threshold, and all this at a time when the demand for blood products did not waiver, contrary to 2020. Against all the odds, there was no shortage of blood bags across France thanks to the mobilisation of teams and associations. The difficulties encountered can be attributed to the pandemic and its impact both on the organisation of blood donation and on the number of donors: fewer blood drives in companies and universities (the main sources of new donors under normal conditions), donors more difficult to mobilise once restrictions had been lifted, blood donation venues taken over for vaccinations, two Delta waves followed by an Omicron wave affecting both donors and staff, and recruitment

difficulties in a market under pressure with high demands in terms of vaccinations and hospitals. EFS successfully increased and strengthened its calls for donations despite the extremely restricted context. Moreover, the collection teams extended the duration of certain blood drives, stood in for sick colleagues and redirected plasma donors to whole blood donations in order to fill as many blood bags as possible. Lastly, the Establishment succeeded in managing its stocks on a just-in-time basis. Through efficient regulation and solidarity between regions, stocks were constantly adjusted across the country. Supplies were limited in each establishment in order to circulate the blood products more quickly. And when critical thresholds were reached, some of the stock was pooled instead of being fractionated to allow each site to access supplies more quickly.



*CAD agitation and duration transfer: the procedure used to remove amotosalen residues (molecules required for pathogen inactivation).

GIVING... **THE CHOICE TO BE ON THE GROUND**

TESTED SUCCESSFULLY, REMOTE MEDICAL ASSISTANCE IS ROLLED OUT IN COLLECTION!

EFS launched a major overhaul of its organisation in 2019 in a bid to ensure that blood collection can take place across the country, even if no doctors are physically present. Known as RMA - Remote Medical Assistance for blood collection, this new approach has been deployed nationwide since 2022 following successful testing at 29 pilot sites in 2021. An initiative that represents one of the Establishment's major transformation projects.

RMA doctors and nurses at the heart of the system

Although the principle of RMA is simple, it has involved adapting the organisation of blood collection as well as training, supporting and equipping staff. RMA blood drives are held with the remote support of a doctor who now supervises several collections at the same time. Pre-donation interviews are carried out by appropriately trained nurses and the doctor can be called upon at any time, particularly if a donor presents adverse effects. Two decrees, published in the French Official Journal in 2019, gave the green light for this approach and set out the regulatory terms and conditions.

A trial across 29 pilot sites

Once the parameters were defined, RMA was gradually rolled out at 29 pilot sites in all regions in three waves from November 2020 to August 2021. Almost 900 RMA blood drives were held in total, accounting for 5.9% of mobile collections. The smooth running of the various stages has resulted in positive feedback from the EFS teams involved as well as from donors and associations.

Fewer blood drives cancelled and more streamlining

An initial assessment conducted as early as March 2021 revealed that the rate of adverse events (2.3%) was the same as that of a conventional blood drive. The nurses were able to resolve 90% of the incidents without having to call in a doctor. Another indicator: 685 blood drives, that would otherwise have been cancelled between June 2021

and January 2022 due to the absence of a blood drive doctor, were able to go ahead thanks to RMA. At the end of October, a more global assessment of the trial, reviewing all of the indicators, corroborated these initial results, from the organisation of blood drives to self-sufficiency, including donor safety, the appeal of the profession and training. With fewer blood drives cancelled due to a shortage of doctors, greater fluidity and the same level of safety, this review confirmed the viability of the RMA

model. It also allowed the necessary adjustments to be made prior to the national roll-out starting in early 2022.

A greater skill set for the collection teams

Whilst RMA satisfies key expectations regarding the conduct of blood drives, the aim of self-sufficiency and donor safety, it also allows doctors and nurses to vary their missions and showcases their skills. The confidence of the

blood drive staff in the project, built up through initial close collaboration between the teams and the RMA doctor, was yet another significant success factor. Training and support did the rest. They were essential to the success of this project, to which EFS teams committed themselves with both determination and enthusiasm.





GEOMATICS, AN INTELLIGENT TOOL TO OPTIMISE BLOOD COLLECTION



Improving blood collection across the country is an essential lever in response to societal and demographic changes. It also guarantees health sovereignty and self-sufficiency in blood products. This has led EFS to produce dynamic mappings of each region

since 2019. The principle is based on the computer processing of geographical data, which involves crossing collection data with socio-demographic data from INSEE or the National Geographic Institute. Aims: to determine the optimal location and time slot for each mobile blood drive and to review the location of the new *Maisons du don* blood donation collection centres within exploratory study frameworks.

Geomatics also contributes to meeting two major EFS challenges, namely plasma collection and the recruitment of donors with a phenotype of interest. Based on the level of generosity of plasma donors, potential plasma donations can be assessed and the organisational model of the blood donation collection centres adapted in line with requirements. Similarly, geomatics can be used to target the geographical areas where donors with a phenotype of interest are concentrated in order to call them up depending on transfusion requirements and to promote donor retention.

A specialist has been trained to use these tools in each region. Their task is to devise the necessary analyses with collection and marketing managers. Workshops will increase familiarity with these tools by the end of 2022.

SUSPENDED DUE TO THE HEALTH CRISIS, GREEN BLOOD DRIVES RESTART

For several years now, EFS has been committed to making blood drives greener in a bid to combat climate change and align practices with increasingly eco-focused donors. How? With more environmentally friendly disposable tableware, more organic food products and less plastic. In 2021, when public contracts were up for renewal, EFS sourced and commissioned suppliers to obtain more environmentally friendly snacks, including organic and fair trade products in particular. A new contract for hospitality consumables was also signed in June 2021 to replace single-use tableware and cutlery with more sustainable hospitality products. With Earth Cup®-labelled recyclable cups made in

France from European raw materials, disposable wooden cutlery without glue or varnish, as well as tablecloths and place mats made from recycled paper and bleached without chlorine. Finally, since June 2021, the sorting of waste at blood donation centres has been facilitated by using 100% biodegradable and compostable kraft paper bags. The removal of plastic bottles, initiated in 2019 and then suspended due to the health crisis, will resume as soon as possible. Even today, the shortage of certain raw materials impacts the ability of our suppliers to deliver selected products. EFS purchasing departments are working to temporarily replace them with other sustainable products.



TWO MAISONS DU DON OPEN THEIR DOORS IN DUNKIRK AND TOULOUSE

To enhance the donor experience and increase its collection capacity at the same time, EFS is opening and renovating new blood donation centres every year, like the *Maisons du don* in Dunkirk and Toulouse, both of which opened their doors in October 2021. Located in the city centre, the first offers a more comfortable, larger and more modern space able to accommodate 20% more donors as of 2022. This is an essential addition to meet the needs of patients, at a time when blood product reserves remain fragile. The Toulouse *Maison du don*, also located in the city centre, just a stone's throw from the Place du Capitole, currently welcomes up to one hundred donors each day to its spacious premises decorated in the new EFS brand colours.

© EFS/Orane Tasky - EFS/Paul Lamy - EFS/Frédéric Baron-Morin



© EFS/Antoine Vincens de Tapol

DIGITAL ADVANCES AND DONOR RELATIONS: A MAJOR LEAP FOR INNOVADON

Lunched in 2018, the Innovadon programme places donors right at the heart of EFS operations to improve their experience and make it unique. Since 2021, this experience has taken a major leap forward in terms of both relationships and digital technology.



7.2 MILLION
visits to the dondesang.efs.sante.fr website (compared to 3.4 million in 2020 and 2.5 million in 2019)

2.4 MILLION
appointments made online, i.e. three times more than in 2020

347,000
mobile app downloads since its creation in 2019

EFS launched a national programme in 2018 in order to transform blood donation into a straightforward, rewarding, pleasant and friendly experience and to boost donor confidence. This is a major challenge for EFS in its bid to continue to recruit and retain new donors. This programme, which has various components, has placed digital technology and the quality of relationships at the core of the donor experience. And significant progress has been made on both these points from early 2021 onwards.

A new website with a chatbot

Launched in the spring of 2022, the new dondesang.efs.sante.fr website, the foundations of which were laid throughout 2021, aims to convert visitors to donors. From information to making an appointment, everything has been designed to simplify the journey of the 600,000 visitors

who log on each month on average, mostly from their mobile phones. In just a few clicks, they can find out why it is important to donate, if they can donate by taking a quiz, and where to do so thanks to an interactive map before making an appointment online. This is a real asset considering that the number of appointments soared to 2.4 million in 2021, three times more than in 2020. As for visitors who need simple, precise information on blood donation, a “smart” chatbot answers their questions in real time.

Nurturing an attentive relationship with donors

Although digital technology makes life easier for donors, nothing can replace the warmth of a human relationship, which is a key element in donor retention. When donors arrive at the blood donation centre or a mobile blood drive, the Establishment takes care of each and every one of them, making

them feel calm, useful and welcome. Co-constructed with the collection teams in 2020, this “attentive relationship” approach was rolled out at the pilot sites of nine regional establishments in 2021. Workshops were held at these sites so that the employees concerned could gain a sound understanding of the key elements of this new attitude and interpret them in their own way. The attentive relationship will be applied both face-to-face and remotely. EFS has thus worked on structuring this remote relationship with the aim of creating regional contact centres for all telephone marketing operations. This target organisation has been validated and will be rolled out in 2022 so that each regional establishment can devise its own course. This will be supported by new, more effective tools for both telephone and donor relations. The long-awaited marketing automation tool is just one example, designed to simplify the life of the teams by relieving them of repetitive tasks with little added value.



Exhibition rooms at Toulouse City Hall, January 2021

© EFS

UNUSUAL BLOOD DRIVES: OUT OF THE ORDINARY DONOR EXPERIENCES

Blood collections were organised in unusual cultural locations right across France in 2021 in order to promote blood donation in cities despite the shortage of venues due to the health crisis. These included the following, amongst others: in the Grand-Est region, the Reims Opera House, the Strasbourg Museum of Modern and Contemporary Art and the Unterlinden Museum in Colmar, all welcomed donors. The famous Château du Clos de Vougeot played host in Burgundy, while the annual campaign “Mon sang pour les autres” (My blood for others) in Occitania was held in the Toulouse City Hall exhibition rooms, Place du Capitole, from 20 to 23 January 2021. 2,653 donors turned out, making this the largest blood drive in Europe. Another way to discover these incredible locations whilst promoting the gift of self.



Strasbourg Museum of Modern Art, April 2021

© EFS



4 TIMES MORE IMPACT FOR THE #PRENEZLERELAIS 2021 CAMPAIGN

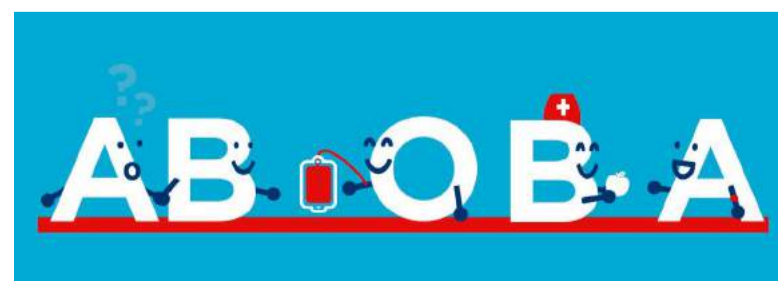


With 85 million social network users, the #PrenezLeRelais 2021 campaign reached four times more potential donors compared to 2020. Its success is largely due to the new

“Nous sommes les donneurs de sang” (We are the Blood Donors) advert, which launched the campaign. Designed with the DDB agency, the ad was aired on the M6 Group channels on 8 June 2021 to coincide with the Euro semi-final between France and Bulgaria, as part of the World Blood Donor Day campaign. Over 13 million viewers saw the ad, which was aimed particularly at young people. The intention was to secure long-term recruitment by encouraging people to join the blood donor community and to indelibly etch the “donor brand” in the hearts and minds of citizens. The campaign was promoted on social networks up until December 2021.

#MISSINGTYPE 2021 EVEN MORE PARTICIPANTS!

From 4 to 16 January 2021, more than 400 brands and institutions dropped their A, B and O for the fourth season of #MissingType on social networks. As in previous years, the campaign was launched in January to encourage French citizens to make a New Year’s Resolution to give blood. And it was a resounding success, reaching more than 60 million individuals on social networks or via the media. And the 2022 campaign, which ran from 3 to 15 January, was equally successful.



GIVING... **THE TIME TO BE UNIQUE**



© Adobe Stock/wooster

THE FIRST **RARE BLOOD AWARENESS WEEK** TO RECRUIT AND MOBILISE

From 15 to 21 November 2021, the blood donation centres hoisted the flag of diversity for the first “Rare Blood Awareness Week”. The aim: to recruit, retain and promote donors, thus ensuring qualitative self-sufficiency in these highly sought-after blood groups, which are often found in populations of African or Caribbean origin.

The aim of this Week is also to raise awareness of the challenges linked to the diversity of donors (which must reflect that of patients) and to mobilise EFS partner networks to maintain links with these donors (voluntary and public sector partners, media and online communities, etc.).

Unprecedented mobilisation across France and in the press

In practice, significant resources were rolled out across the country as well as in the media and on social networks. An email campaign was sent out to 2.5 million eligible donors

ahead of the event, while posters and advertising banners were displayed at fixed and mobile blood drives for one week. Flyers, badges and slogans were given to the collection teams to enable them to broach the subject more effectively with donors. The messages were promoted on communication materials by patients with these rare blood groups and undergoing treatment, association representatives, donors with rare blood groups, influencers and health professionals. The information was widely reported in the media, including an article in the *Journal du dimanche* and in a press release by Agence France Presse. Not to mention the political

figures who attended the event. For instance, the Minister for Urban Affairs, Nadia Hai, visited the Blood Donation Centre in Bobigny, a town with a high donor potential, while the Interministerial Delegate for French Overseas Territories, Maël Disa, met with EFS teams in Créteil.

New donors sign up

This initial campaign proved a success with over 330 press reports including three broadcasts on France Télévision channels as well as on the Internet, radio and in the regional daily press. A slight increase in the number of donors was recorded in most regional establishments, peaking during the campaign week itself and the week after - proof that the appeal had been well and truly heard. Although the outcome was positive, this is still very much a work in progress. A permanent feature from now on, the next Rare Blood Type Week will be held from 14 to 20 November 2022.

WORK TO OPTIMISE THE RARE BLOOD NETWORK IS SCALING UP

Donor diversity is essential to guarantee the qualitative self-sufficiency of labile blood products. However, this self-sufficiency is currently under pressure when it comes to certain rare blood groups and phenotypes of interest (see inset). In some exceptional cases, EFS even imports blood products from other countries where these groups are better represented. These exchanges also exist in the other direction with EFS contributing to the treatment of patients with rare blood abroad if compatible donors are found in our country. EFS has undertaken to optimise its rare blood network from 2020 onwards in order to raise awareness of these issues, to reach out to donors and to pool their donations on a national scale. Sixteen action plans have been set up to run in parallel. Aims: to improve and streamline the management and organisation of the network, to roll out a national communication strategy, to make the necessary blood products more efficiently available to the populations concerned and to improve the management of rare blood donor and patient data. This groundwork was scaled up in 2021. A Medical and Strategic Committee for Qualitative Self-Sufficiency (CoMSAQ) was created. The network of rare blood specialists has been restructured and the product delivery strategy has been harmonised. Targets for ROR phenotypes of interest (see inset) have also been sent to each region.



WHAT IS RARE BLOOD?

Blood groups are not just limited to A, B, O and Rh + or -. There are around 380 blood group antigens in total. About 200 of these antigens are found in a large proportion of the general population. The absence of one of these antigens defines a rare blood group (frequency < 4/1,000 according to the French forensic definition). Over 700,000 people are estimated to be affected in France today.

Other blood groups, less rare but nevertheless infrequent in France, are referred to as phenotypes of interest. The so-called “Rûr” group, present in 40% of populations of African ancestry but only 2 to 4% of Caucasian populations, is a typical example.

In France, the majority of people with rare blood or phenotypes of interest come from Western Europe, but the greatest supply pressures concern the phenotypes present in individuals originating from Africa, the Caribbean or the Indian Ocean (Reunion Island, Mayotte, Comoros).

GIVING... **THE THIRST FOR KNOWLEDGE**

**FROM BASIC RESEARCH
TO PROOF OF CONCEPT:
AN INTEGRATED
VALUE CHAIN**

© EFS/Frédérique Plas

Across France, EFS research teams work in synergy with the major university hospitals and research institutes. Together, they form a value chain ranging from basic research to proof of clinical concept enabling patients, donors and the various professions covered by the Establishment to benefit from the latest advances as quickly as possible.

Research at EFS concerns the entire transfusion chain and relates as much to blood products and transfusion as to innovative therapies, thanks to the Establishment's knowledge of cellular engineering and immunology. EFS research projects are carried out in seven areas: transfusion medicine, risk of infection, human and social sciences, haematopoietic stem cell transplantation, regenerative medicine, blood products of the future, and immunotherapy and gene therapy. In most of these fields, the strength of the establishment lies in its integrated value chain at the service of innovation. This chain includes the collection and preparation of samples, research using these samples and biomanufacturing platforms to supply clinical trials followed by the scientific

stakeholders who validate them, file patents or create spin-offs to exploit them.

A cross-cutting, priority approach

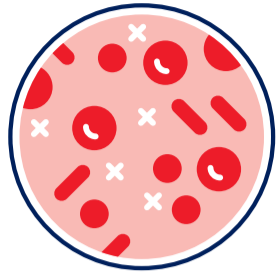
Cross-cutting, themed working groups were set up in 2019 focusing on red blood cells, platelets,

**THE ESTABLISHMENT'S
STRENGTH LIES IN ITS
INTEGRATED VALUE CHAIN
AT THE SERVICE
OF INNOVATION**

infectiology, transplantation and immunotherapy, regenerative medicine and the societal approach to unite these projects, thereby

allowing 118 EFS researchers, engineers and technicians to come together with a global vision. In 2021, these groups began a major prioritisation programme allowing the Establishment and its Scientific Council to define, in complete transparency, the projects to which EFS would be devoting more resources. This prioritisation is all the more essential given that the Establishment currently has more than 150 research programmes in the pipeline. Finally, to increase its visibility in the area of research, EFS provided more information on this subject in 2021 with an institutional brochure and numerous internal and external publications. The aim being to motivate new partners and institutional or private financiers, but also to highlight the direct or indirect contribution of all the teams in the transfusion chain.

CULTURED PLATELETS EFS PREPARES FOR A CLINICAL TRIAL



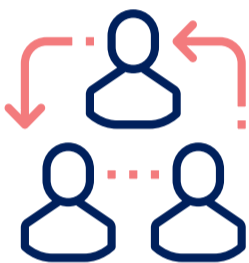
Cultured platelets produced at EFS will be tested in humans from 2023 onwards. In preparation for this first clinical trial, the Strasbourg Joint Research Unit (UMR) teams, which have been developing these cultured platelets in the laboratory since 2017,

joined forces with the Besançon biomanufacturing platform in 2021. The aim is to eventually move from a few millilitres to several litres of solutions, produced under pharmaceutical conditions. This will require a technology transfer, followed by numerous

developments to generate a pre-industrial process. This multi-million euro programme is testimony to EFS's ambition to develop the blood products of the future and innovative therapies. Universal cultured platelets could eventually be used in refractory,

polytransfused patients, or serve as "vehicles" to transport medicinal products to tumour sites, for instance. Other more basic research is also in the pipeline and is geared to producing red blood cells in vitro at some point in the future.

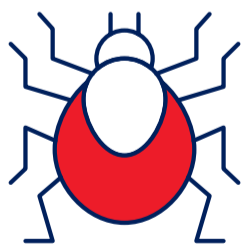
RESEARCH IN HUMAN AND SOCIAL SCIENCES TO ENCOURAGE BLOOD DONORS TO GIVE THEIR PLASMA



Over the past three years, EFS has strengthened its commitment to research in human and social sciences and has devoted part of its work to the key factors of donation. The aim is to understand what drives some individuals to donate and what hinders

others, and then to identify the best levers for recruiting new donors and retaining existing ones. It is precisely along these lines that a young EFS researcher from the Rennes Social Psychology Laboratory completed his research in 2021, focusing on the reasons for and against plasma donation, in a bid to discover how to encourage blood donors to donate their plasma. Given the shortage of plasma donations, this is a major challenge for the Establishment, which aims to increase plasma donations by 50% by 2026 in order to meet the needs of French people with regard to blood-derived medicinal products.

EPIARBOTIQ A SEROPREVALENCE STUDY OF TICK-BORNE ENCEPHALITIS



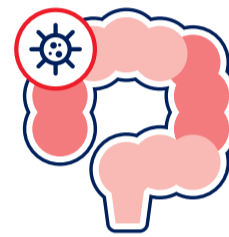
Transmitted by ticks, the tick-borne encephalitis virus is an arbovirus for which few epidemiological data are available in France. In view of the public health issues at stake and the potential threat to products of human origin,

including blood, EFS launched a national study of 50,000 donors in December 2021. The aim is to estimate the proportion of donors who have been in contact with this virus and to investigate the risk factors. The questionnaires and samples collected by the collection teams will pass through the transfusion biobanks and will be analysed by the EFS laboratory in the Emerging Viruses Unit (Inserm) in Marseille. Mindful of contributing to the fight against insect-borne emerging pathogens, the Establishment will make its samples available for other projects including a study of Lyme disease.

MEFISTO A EUROPEAN REGENERATIVE MEDICINE PROJECT FOR THE MENISCUS

A large number of patients who have undergone partial meniscus resection develop early onset osteoarthritis of the knee. Launched in 2019, the MEFISTO research project, financed by the European Union, aims to prevent this degeneration through regenerative medicine, and thus avoid the need for a prosthesis. EFS is committed to regenerative medicine and is contributing to this project via its teams in Créteil and Brest, alongside twelve other partners from the university, hospital and industrial spheres in eight European countries.

HERIC T LYMPHOCYTES TO FIGHT COLORECTAL CANCER



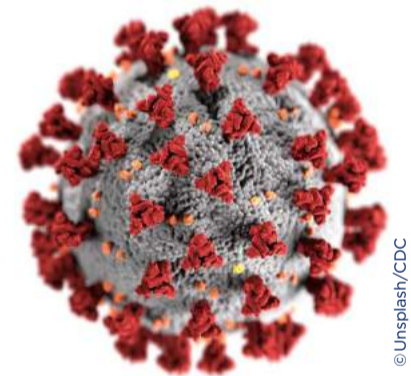
Although immunotherapy is now successfully used to treat patients with lung, skin or blood cancers, it is not yet indicated for colorectal cancer. A young EFS researcher from the Besançon Joint Research Unit received funding from the French National Research Agency

(ANR) in 2021 in order to explore new avenues. With this four-year budget, he and his team will be able to develop an immunotherapy project based on T lymphocyte engineering. This programme demonstrates EFS's commitment to immunotherapy in order to develop the treatments of the future.

ONGOING RESEARCH INTO SARS-COV-2

initiated in the early days of the pandemic to better understand and treat the SARS-CoV-2 virus, EFS continued its research efforts in 2021 and even launched new projects.

- **Including Coviféron**, a university hospital research (UHR) project proposed by Professor Casanova at the IHU Imagine (Imagine Institute) and involving the EFS Auvergne - Rhône-Alpes teams and the EFS National Medical Directorate. This project was devised in response to a call for projects from the French National Research Agency at the end of 2021. It seeks to shed more light on the genetic and immunological features of COVID-19, including the role of anti-interferon type 1 auto-antibodies. EFS's contribution is aimed at assessing the presence of these auto-antibodies in blood donors and to understand their possible impact on blood products as well as on the safety of patients transfused with products obtained from donors with these auto-antibodies.
- **The purpose of the CovidEP clinical trial** launched in March 2021 by the EFS Lyon teams and Lyon Civil Hospices is to investigate whether complementary plasma exchange therapy can improve the respiratory condition of cytokine storm patients. Patients were enrolled in this randomised study throughout the year, in line with the various waves of the pandemic.
- **The national project on convalescent plasma transfusion** launched in 2020 continued in 2021. EFS received European funding to produce convalescent plasma. The data collected under the protocol for therapeutic use granted to EFS by the French National Agency for the Safety of Medicines and Health Products (ANSM) to transfuse



© Unsplash/CDC

convalescent plasma to more than 1,500 patients on a compassionate basis are currently in use. Initial results suggest an indication for this plasma in immunocompromised patients.

• **The Covidonneur** study on the seroprevalence of SARS-CoV-2 in blood donors, also launched in 2020, was enhanced in 2021 with a research project in human and social sciences to understand donor behaviour during the health crisis. Initial results were presented to the French Blood Transfusion Society Congress in Marseille in November 2021. Led by the Marseille teams, both components of the Covidonneur study are funded by the ANR.

GIVING... **THE WILLINGNESS TO INNOVATE**



© EFS/Steeves Ambill

ADVANCED THERAPY MEDICINAL PRODUCTS **A PRODUCTION SECTOR SERVING HEALTH SOVEREIGNTY**

Biomedicines represent a major therapeutic advance on an international scale with France intending to position itself as a key player thanks in particular to EFS and its biomanufacturing sector. The Establishment, for its part, is participating in the France 2030 Plan, which aims to produce twenty advanced therapy medicinal products (ATMPs) to fight cancers and chronic diseases by the end of the decade.

Advanced therapy medicinal products, also known as “medicines of the future”, offer the hope of treating diseases that are difficult or impossible to treat with conventional chemical molecules, such as degenerative, rare or chronic diseases and certain cancers. To develop and produce these medicinal products, EFS

has an integrated value chain ranging from research to biomanufacturing via clinical trials.

Four biomanufacturing platforms

EFS has structured its biomanufacturing sector around four platforms, the production capacities of which comply with the principles of Good Manufacturing Practices. These platforms are based in Nantes, Créteil, Besançon and Grenoble. Approximately forty employees produce clinical batches of ATMPs for phase 1 or 2 clinical trials for a dozen or so patients. They are ready and awaiting to move towards large scale clinical trials involving hundreds of patients.

The scope of these EFS platforms is now structured to develop research towards the medicinal product stage, i.e. with clinical trials on humans. They act as CDMOs (Contract Development Manufacturing Organisations) for providers authorised to prescribe these biomedicines to patients. EFS has also joined a

six-company consortium that launched the Genesis Protocol in 2021, an ATMP to improve the healing of burns, diabetic feet and ulcers. This project epitomises the appeal of EFS: cutting edge teams and partners acknowledging its expertise and manufacturing quality.

A remarkable French adventure

EFS affirmed very early on its desire to invest in these new techniques and is now continuing its efforts with renewed vigour to make ATMPs accessible to all. Their development and production costs are indeed high, as they must be manufactured in controlled atmosphere rooms by qualified personnel and require stringent quality control procedures. Through marketing ATMPs with its partners, EFS’s ATMP network intends to reach a financial equilibrium by the end of 2022 and thus become part of a virtuous circle. The revenue thus generated is intended to help boost research and accelerate the marketing of future therapies.



MACROCHIP, A PROJECT TO DEMOCRATISE BIOMEDICINES

As a major player in biotherapies and Advanced Therapy Medicinal Products (ATMPs), EFS is part of the Health Innovation 2030 plan launched by the French government. It is precisely in this context that the Establishment won the call for expressions of interest in "New therapies and production tools" with its Macrochip project in 2021. This is a closed-system automated production tool that aims to simplify the production of ATMPs in order to make them more accessible. Macrochip is the result of a partnership between CellQuest (a company specialising in bioproduction systems) and the EFS platform in Besançon. Its aim is to develop a plant manufacturing CAR-T cells and therapeutic proteins, in small volumes but on an industrial scale, ultimately creating an entirely closed but simplified and less costly production system to democratise biomedicines.

© EFS/Philippe Castano

CAR-T CELLS *MADE IN EFS*

CAR-T cells offer an extremely promising potential cure for many patients suffering from blood cancer. EFS has invested in a unique biotechnology and biotherapy ecosystem in France, based in Besançon, in a bid to bring this therapeutic revolution to fruition. All of the structures needed to develop CAR-T cells are grouped together in a small geographical area conducive to research, development, optimisation, production and clinical trials. The EFS premises host the MiMédi project laboratory, supported by a consortium of academic and

private partners working to improve ATMP production processes. The Bio-Innovation development centre was also opened on 30 March 2021. It brings together major biotherapy players and includes a biotechnology platform operated by EFS to promote dialogue between scientists, practitioners, manufacturers and start-ups. Last but not least, the Besançon University Hospital provides support through its research scientists and makes patients' biological specimens readily accessible in order to test the efficacy of CAR-T cells in a preclinical setting prior to their clinical evaluation.

TWO IMMUNOTHERAPY START-UPS PROMOTED BY EFS

EFS helps its start-ups to develop through its technology transfer activity. To this end, the Establishment negotiates balanced licensing agreements to facilitate the exploitation of their assets. It puts in place collaboration and hosting agreements, creating an environment where start-up technology can flourish. These partnerships generate new knowledge and patents, increasing the company's value. Two start-ups developing technologies based on EFS research benefited from this support in 2021, namely PDC*line Pharma and CanCell Therapeutics.

- **PDC*line Pharma** has been developing a new class of cancer vaccines based on plasmacitoid dendritic cells since 2015, building on the work conducted by EFS Auvergne - Rhône-Alpes.

A candidate vaccine is currently at the clinical trial stage.

- **CanCell Therapeutics** is developing CAR-T cells in particular, based on the work carried out by EFS Bourgogne - Franche-Comté. The start-up signed a licensing agreement with EFS in 2021. It is currently preparing an initial clinical trial in humans to demonstrate the efficacy of CAR-T cells in patients with certain types of aggressive leukaemia.



EFS TAKES UP TWO "MAJOR BIOMEDICINE CHALLENGES"



© EFS/Philippe Castano

The ability to transplant 50 patients with corneal disease instead of just one - this is the extremely promising outlook offered by the THERACO preclinical and clinical studies developed by EFS in 2021 as part of the Major Biomedicine Challenge. This is a cell therapy project involving EFS Auvergne - Rhône-Alpes, its tissue bank, the ATMP platform in Grenoble and three other stakeholders.

STELLAR, the second Major Challenge taken up by EFS and four other partners, concerns the production of keratinocytes from pluripotent stem cells. The aim is to produce artificial skin more efficiently for sickle cell patients. This is currently a manual process that is difficult to follow. In the future, cultivation will be via holographic microscopes in association with artificial intelligence thanks to the ATMP platforms in Besançon and Nantes.

2021

IN TEN VOICES

EMPLOYEE INTERVIEWS

NOÉMIE BLED, EPDI NURSE

DENIS BRETON, HEAD OF IT

MICHEL COGNÉ, HEAD OF THE IMMUNOTHERAPY RESEARCH UNIT

PASCAL DUPRAT, DRIVER AND RECEPTIONIST

CATHERINE LELEU-DELAY, COLLECTION DOCTOR, RESPONSIBLE FOR BLOOD COLLECTION IN THE ARDENNES REGION

CLAIRE MATON, HEAD OF TEACHING AT CAMPUS EFS

ÉLODIE PARIS, LABORATORY TECHNICIAN (IH-DEL)

CAMILLE PERRIN, MARKETING MANAGER

CHRYSTELLE SORLIN, PURCHASING MANAGER

ALEXANDRE WALENCIK, PHARMACIST/BIOLOGIST, HEAD OF HLA

Every day at EFS, 10,000 nurses, laboratory technicians, physicians, biologists and researchers as well as IT and logistics specialists, communicators and trainers, etc. give blood the power to heal. Ten voices tell us why they have chosen to mobilise and how they help to treat one million patients each year.

Photos Nicolas Nédellec for Crazy Rabbit.



“In addition to treating patients who receive regular transfusions, the blood bags that we deliver to the seven hospitals in the region can also save lives. Like the life of a 14-year-old boy who underwent an operation for appendicitis, which went wrong and caused a haemorrhage requiring a massive transfusion. Of the 25 bags he received, we prepared the last ones as a life-saving emergency. The surgical team had used up all of its emergency stock and asked us to provide the rest. **It was literally down to the minute. We had to work quickly, be focused and liaise** with the anaesthetic nurse while the ambulance driver waited for the bags.”

Elodie Paris

Immunohaematology-issuing
laboratory technician (IH-DEL),
Hauts-de-France - Normandie

“The therapeutic powers of blood are multi-faceted. Blood can offset a deficiency through a transfusion but **some of its cells can also be used to heal** by increasing their protective powers. This is the aim of my research unit, which is working on B lymphocytes - the cells in our blood that secrete antibodies. Our long-term aim is to collect these B lymphocytes from a patient, genetically modify them so that they are capable of targeting and destroying a tumour, and then return them ‘fore-armed’ to the patient. This will enable us to **eradicate certain cancers** in a single treatment whereas long-term treatments are currently required. The benefit of B lymphocytes is that they can survive for years!”

Michel Cogné

Head of the Immunotherapy
Research Unit
and Scientific Director,
Bretagne



2021 IN 10 VOICES



“In order for blood to have the power to heal, **it must be compatible** with the recipient. The same applies to organ or haematopoietic stem cell transplants. Although our laboratories do not work directly on blood, our aim is the same as for transfusion: **to guarantee compatibility** between the transplanted organ and the patient’s own immune system to avoid any risk of rejection. However, unlike transfusion, we also monitor transplant patients in the long term in order to alert the clinical teams as soon as the first signs of rejection appear, often several years down the line. It is this direct contact with medical staff that makes our job so rewarding in addition to the fact that we help to save a life with each successful transplant.”

Alexandre Walencik

Pharmacist/biologist,
Responsible person for Histocompatibility and
Immunogenetics (HLA),
Centre - Pays de la Loire

“In purchasing all of the equipment needed for the transfusion chain to function properly, we are also helping to give blood the power to heal. And we do this in accordance with both regulatory standards and budgetary constraints to always choose the best option. Every time I buy a consumable, an item of equipment or material, **it’s not just about numbers: I know that there is a donor or a patient at the end of it or an EFS colleague**, a doctor, biologist, nurse or technician, etc. This is why I have not switched public establishments for twenty years despite the opportunities that have come my way. I would not have found the same ethical approach or the same health-related link.”

Christelle Sorlin

Purchasing manager,
Auvergne - Rhône-Alpes



“Our mission, the one we get up for every morning, is to give blood the power to heal. But as fine and noble as it is, today this cause is no longer enough. To ensure that everyone wants to serve it on a daily basis, **it is up to me, as the manager, to bring it to life and motivate the teams.** I am fortunate to be able to do this. At EFS we always have new projects that I can build on. Whether it’s pre-donation interviews with nurses or remote medical assistance for blood collection, not to mention all the developments in the transfusion chain for the benefit of patients and donors and their health and safety.”

Catherine Leleu-Delay

Collection doctor, responsible for blood collection in the Ardennes region, Grand-Est



“Giving blood the power to heal **means being part of a larger chain ranging from donors to patients.** A chain that is life, that sustains life. This is what I tell myself when I have to change my schedule at short notice or extend a blood drive because our stocks are low. This is what I tell myself when I welcome donors who have answered our appeals or when I have to drive up to an hour and a half to set up a blood drive and then another hour and a half to deliver the samples. That’s what we all say to ourselves in our team, because if we don’t show up, every time, there would be less blood to treat patients. And that’s why we present such a united front.”

Pascal Duprat

Driver and receptionist, Occitanie

“We need blood for patients to receive transfusions and be treated and we need donors to obtain the blood. My job is **to find these donors by inviting them to the right place at the right time,** depending on the state of our stocks, the blood groups we need and the scheduled blood drives. Without these reminders, there would be four to five times fewer donors and our country would not be self-sufficient.

We, along with the entire transfusion chain and donors, give blood the power to heal. And this blood cannot be replaced by any medicine. This is the simple message we use to mobilise donors, and that’s precisely what makes our work worthwhile.”

Camille Perrin

Marketing manager, Provence-Alpes-Côte d’Azur - Corse



“Healing is not just about giving blood transfusions or blood-derived medicines. It’s about doing it with safe products. I remember transfusion without computers when I started out in 1987, and I can tell you that **safety is the greatest element of progress that computers have brought us.** Whether it’s registering a donor or being at the patient’s bedside, information technology manages the entire transfusion chain. It allows us to recruit donors, monitor their eligibility to donate, screen our samples, prepare our products in accordance with secure standards, manage and regulate our stocks, and to administer the right bag to the right patient. Our IT system is vital, which is why we protect it from any risk of cyber attack.”

Denis Breton

IT Manager Guadeloupe - Guyane and La Réunion - Océan Indien, Head of the Competence Centre for the French Overseas Departments (CCDOM)



“For blood to save lives, the transfusion must be carried out in accordance with current regulations and under optimum safety conditions, i.e. at the right time, with the right product, for the right patient, in accordance with immunohaematology regulations. **I train all of the stakeholders in the transfusion chain in all of these regulations,** whether they work in our establishment or elsewhere. They may be nursing assistants, technicians, nurses, anaesthetists, haemovigilance coordinators, prescribing doctors or biologists, for whom we provide more or less specific training depending on their qualifications. Because transfusion is a highly responsible medical procedure, which can be totally ineffective or cause adverse events of varying severity if it is not carried out correctly.”

Claire Maton

Education officer in immunohaematology and issuing at Campus EFS, Île-de-France

“**Although blood has the power to heal, it can also trigger adverse events.** In the patient, when the donor is, for example, a carrier of a blood-borne virus. But also in the donor, if they are anaemic, for example, or have a condition that contraindicates blood donation. **This is what I tell donors during the pre-donation interview** to encourage them to be honest.

Some are so motivated to give blood that they get frustrated if they are deferred, even temporarily. To help them understand I remind them that these safety measures also apply to them if ever they should need a blood transfusion. And I reassure them that our conversation will remain completely confidential.”

Noémie Bled

Pre-donation interview nurse (EPDI), Blood collection supervisor, Nouvelle-Aquitaine



GIVING... **THE DESIRE TO BUILD TOGETHER**



Precisely to raise awareness of the citizen cause linked to blood donation and to facilitate the donation process for 300,000 agents, the Ministry of the Interior organised a major campaign with EFS in 2021, which got off the ground in early 2022. This new partnership further consolidates the French Republic's ongoing commitment to blood donation.

WHEN THE FRENCH REPUBLIC STEPS INTO ACTION TO GIVE BLOOD THE POWER TO HEAL

Blois, as in most of the regions, this was an event to be repeated, as pointed out by the former Director of the Prefect's Office: "We were eager to join the Ministry in passing on its request, in partnership with EFS. The aim is to make this initial blood drive a permanent feature and open it up to other individuals in the jurisdiction in question. We are starting something new today".

A triple impact for EFS

Apart from increasing stocks of labile blood products throughout the year, this ministerial campaign should enable EFS to expand its donor community and increase its visibility across the regions. The pool of potential donors is indeed considerable as the Ministry of the Interior has nearly 300,000 civil servants, police officers and gendarmes across the country in addition to the 250,000 professional and volunteer firefighters. Thanks to the awareness campaigns and blood drives organised throughout the year, with the help of the prefectures, these agents, whose schedules are sometimes difficult to reconcile with those of the fixed blood collection centres, could find it easier to donate blood. And thanks to this campaign, EFS and its regional establishments can also make direct, permanent contact with the country's 100 prefectures and 233 sub-prefectures. This contact enhances their visibility and allows them to organise these events more easily when stocks are running low or in the event of a health crisis.

"Blood donation helps to treat more than one million patients each year in France [...] and 10,000 donations are needed per day. [...] In accordance with the President of EFS and the needs identified, we have decided to launch a new ministerial campaign in early 2022." These were the opening words of the Ministry of the Interior's instruction sent in early January to prefects, directors and heads of department to launch the major national blood donation campaign. A campaign that was prepared in 2021 with EFS and launched on 6 January 2022 with a symbolic blood drive at the Ministry of the Interior, Place Beauvau, continuing thereafter in the country's prefectures and sub-prefectures.

A firm commitment

In its framework paper, the Ministry asked "each departmental prefect to raise awareness of blood donation among State employees on the one hand, taking all sectors into account, and, on the other hand, to ensure the organisation [...] of a departmental blood donation campaign, open to ministerial agents and, where possible, to other State services." To this end, the prefects were invited to contact EFS regional offices and to forge sustainable partnerships. Because the campaign, which is intended to boost the Establishment's stocks, should complement operations already in the pipeline rather than replace them. Similarly, this is not a one-off event but should lay the foundations for similar campaigns. And in order to give

this campaign maximum impact, a large-scale national and local communication campaign was rolled out using material prepared in-house by EFS as well as on social networks and in the press.

Blood collection across the country

Blood drives quickly multiplied across the country, as in Blois, where over 40 donors were welcomed to the main hall of the prefecture on 20 January 2022. A venue donors found particularly appealing, as recounted by a gendarme who gave blood: "The ambiance of the blood drive in the main hall of the prefecture was particularly reassuring and completely downplayed the medical side". In

AN INTERVIEW WITH THE NEW PRESIDENT OF THE FFDSB



THREE QUESTIONS TO JACQUES ALLEGRA, PRESIDENT OF THE FEDERATION SINCE 27 MAY 2022

You were recently elected President of the French Voluntary Blood Donors' Association (FFDSB). How did you get there?

My commitment to blood donation goes back almost 40 years. Having been a volunteer with the Neuvecelle association in Haute-Savoie, I joined the departmental union, then the region and ultimately the federal authorities where I worked on information, communication and promoting blood donation. Elected to the Federal Board in 2018, I led the transfusion relations commission and worked on all the major issues. As vice-president of the FFDSB in 2020, I continued to focus on these issues, mainly blood collection and plasma, in conjunction with our partners and, of course, EFS. I also broached international questions.

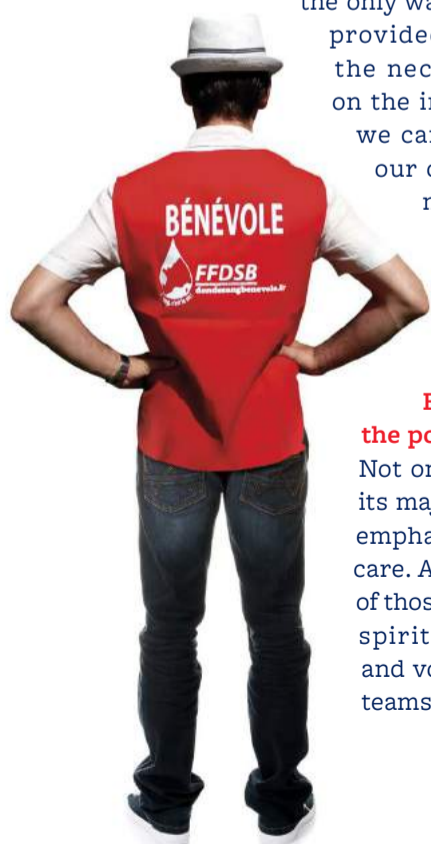
What are your current priorities?

First and foremost, support for our associations, which are very involved but also hard hit by the health crisis. They need to meet the many challenges that lie ahead. In a rapidly changing context, with digitalisation and blood donation by appointment, coupled with the shortage of health sector resources and increasingly difficult donor mobilisation, we want to work with EFS on a 2.0 blood drive model. With new synergies and greater flexibility, because the volunteer world is more essential than ever. Our second major challenge is plasma, namely the collection of plasma and defence of its ethical model, which is the only way to ensure its development provided we equip ourselves with the necessary resources. Finally, on the international stage, because we cannot remain on our own in our corner. In this regard I can mention sub-Saharan Africa, which is developing very fine initiatives.

What is your view on the new

EFS signature: "Giving blood the power to heal"?

Not only does it put blood back in its major health context, but it also emphasises its primary purpose - care. And it does this by uniting all of those who work for it in the same spirit, serving patients: donors and volunteers, as well as the EFS teams.



SOS GLOBI

A BLOOD DRIVE TO SUPPORT SICKLE CELL PATIENTS AND THEIR FAMILIES

"SOS Globi comprises twenty sickle cell and thalassaemia patient associations that have decided to join forces within a federation to better support patients and their families by informing them of therapeutic advances via our website and our social networks. But also by contributing to the evaluation of treatments by the French High Authority on Health prior to marketing authorisation. We are also regularly questioned by ANSM



MARYANNICK LEPETIT, PRESIDENT OF SOS GLOBI

on emerging treatments such as cannabis, which can relieve the intense pain caused by sickle cell disease. Finally, some of our associations, such as SOS Globi Occitanie, Grand-Est and 94, have formed a partnership with EFS and took action during Rare Blood Week to raise awareness among the general public and encourage Afro-Caribbean people to give blood. Because we need more blood and labile blood product reserves are constantly fluctuating."



30 YEARS OF COOPERATION WITH CHILE

In order to promote the French blood donation model, EFS works alongside twenty countries around the world, including Chile in a partnership initiated in the 1990s by the Brittany Blood Transfusion Establishment (Bretagne). Over a period of thirty years, the establishment has helped the country to improve its transfusion chain, to develop ethical blood donation and to open a Blood Donation Centre in Concepción. Despite the health crisis, this cooperation continued in 2021 with a scientific webinar organised by the international affairs mission and EFS Bretagne, drawing 170 online participants on the topic of assessing the impact of the health crisis on transfusion systems in France and Chile. This ambitious programme highlighted common problems (e.g. the decline in stocks due to the discontinuation of mobile blood drives, the booking of online appointments and the postponement of non-vital surgical procedures), but also allowed solutions to be pooled. Chile, for example, has set up "donation routes" so that donors can continue to visit fixed collection sites.

In 2022, the partnership should be extended to the whole of Chile, with the signing of an agreement between the Chilean Ministry of Health and EFS.

HOW EFS IS CONTRIBUTING TO FUTURE EUROPEAN LEGISLATION ON BLOOD, TISSUES AND CELLS



The new European legislation on blood, tissues and cells is currently being drafted by the European Commission and is naturally an important topic on the EFS radar. Since 2020, during the consultation phases, EFS has taken considerable steps to ensure that future legislation promotes an ethical model based on the principle of voluntary and unpaid donation, the only model capable of building a stronger European Union when

it comes to health matters. In order to contribute to this review, the Establishment drew up and submitted a "position paper" to the European authorities. Work was already under way internally with the relevant EFS sectors in order to submit the Establishment's proposals to the European Commission. At French level and in conjunction with the ANSM, the Armed Forces Blood Transfusion Centre and the Biomedicine Agency, the Establishment was involved in the French position coordination group led by the French Directorate-General for Health. As a member of the European Blood Alliance, EFS also took part in discussion workshops with the European Commission.

GIVING... **THE PRIDE IN FORGING AHEAD TOGETHER**

© EFS/Thomas Gogny

Mobilising teams and attracting new talent when the job market for healthcare professionals has been under constant pressure all year round proved to be a real challenge. Nicolas Tunesi, EFS Human Resources Director, explains how the Establishment took up the challenge and made itself more appealing.

“A public health service par excellence like ours calls for high levels of expertise. This is reflected not only in very interesting jobs but also in a significant capacity to develop skills,” explains Nicolas Tunesi. This observation applies right across the board. In immunohaematology issuing, for example, thanks to jobs that are both diversified and specialised. *“Furthermore, our transformation projects, such as remote medical assistance (RMA) during blood collection or Innovadon, are leading us to expand on our skill sets, thereby fuelling interest in working at EFS,”* he adds. An integral part of blood collection is also the relationship with donors, which is a constant source of satisfaction.

Despite these advantages, EFS found it difficult to recruit in 2021. *“Our turnover exceeded 9% compared to 6 to 7% under normal circumstances. And at certain times we had over 600 vacancies to fill compared to the usual 300,”* says Nicolas Tunesi. First and foremost because the job market has been stretched throughout the entire health sector, particularly because of the health crisis. But also because, during a certain period, EFS salaries were not commensurate with those in other sectors, integrated into the Ségur health reform. This made the Establishment less appealing, but a historic increase has partly closed the gap.

HOW EFS INCREASED ITS EMPLOYER APPEAL IN 2021

Finally, because the work-life balance offered by EFS has also suffered as a result of the pandemic and the lack of resources. *“Blood drives have had to be extended and teams across the transfusion chain have had to mobilise in an unprecedented manner to ensure our self-sufficiency despite being smaller in number compared to normal. And they did this remarkably well,”* he acknowledges.

A pay rise for 95% of employees

The Establishment has acted on all fronts in a bid to heighten its appeal, focusing primarily on salaries. *“The need to find a solution was the focal point of our discussions with the supervisory authorities. And we managed to release an unprecedented figure to the tune of 20 million euros, increasing the salaries of 95% of the workforce as a result, taking all categories into account,”* says Nicolas Tunesi. Particular emphasis was given to the laboratory technicians and nurses. The effect of these increases,

which were also applied to salaries at the time of hiring, was evident from September 2021, thus facilitating the recruitment process.

In-depth focus on categorisations and career paths

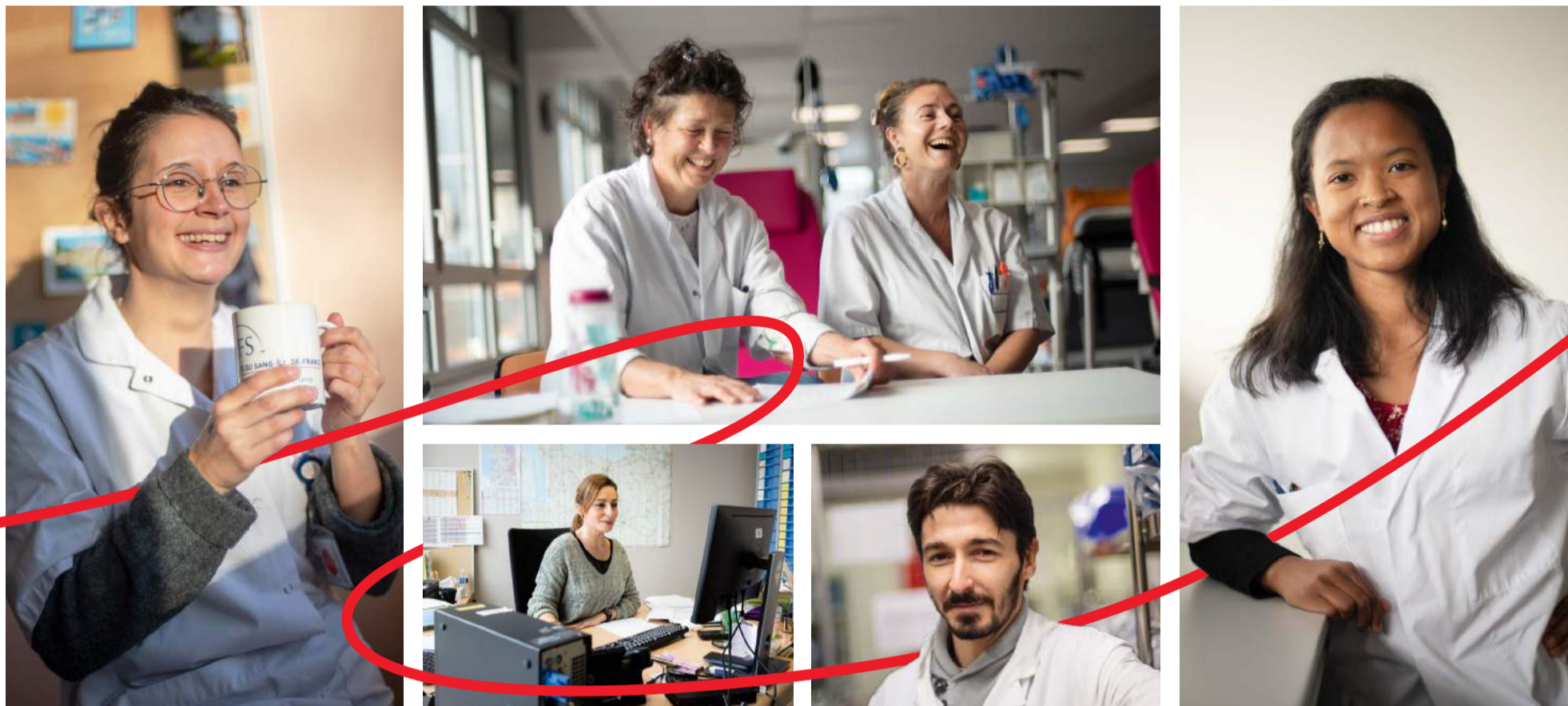
EFS embarked on an overhaul of its categorisation system in November 2021 in order to boost career prospects. *“This work, which is being carried out with social partners, will ultimately have a positive impact on career dynamics and therefore on salary dynamics,”* promises Nicolas Tunesi. Pending the completion of this work, the Establishment is also in the process of identifying and enhancing all development opportunities on a job-by-job basis. This is an essential pre-requisite in order to establish real career paths.

Quality of life in the workplace: a priority

In addition to the further steps taken in 2021 to prevent psychosocial risks through reflex cards or psychologists, who can be mobilised at any time, *“we have initiated in-depth discussions on working hours, particularly in the blood drive sector. This is essential in order to strike a work-life balance. However, we need to work on our organisations upstream to do this.”*

Training efforts among the highest in the health sector.

With 4.4% of the payroll devoted to training, compared to 2 to 3% in the health sector, EFS is well above the market level. *“This substantial and consistent investment from one year to the next allows us to maintain a cutting edge but also to support our transformation projects since our work is constantly evolving,”* concludes Nicolas Tunesi.



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© EFS/Frédérique Plas

CAMPUS EFS OVER 7,500 TRANSFUSION STAKEHOLDERS TRAINED IN 2021

As the EFS training and CPD* organisation dedicated to in-house and external transfusion stakeholders, Campus EFS trained over 7,500 professionals despite pandemic-related restrictions. This was achieved mainly through e-learning. But 2021 was marked above all by the merger between the two major players in transfusion training: the Education and Training Department of the French National Institute for Blood Transfusion (INTS) and Campus EFS. A single training programme will be available from July 2022 onwards. The brochure is currently being revised and work

7,663

TRANSFUSION STAKEHOLDERS TRAINED
OF WHICH:

1,000 INDIVIDUALS TRAINED AT EFS

298 INDIVIDUALS TRAINED IN THE HOSPITAL

6,365 INDIVIDUALS TRAINED IN
E-LEARNING

has been undertaken to harmonise the processes involved. Consequently, Campus EFS was awarded Qualiopi quality certification in November 2021 - a mark of confidence for those embarking on these training courses.

AN AGREEMENT TO REGULATE TELEWORKING

Teleworking has accelerated in all companies as a result of the pandemic. At EFS, an agreement with the social partners was signed on 19 August 2021 and came into force on 4 October. Establishment teams, whose job descriptions allow them to do so, can telework for up to sixteen days every eight-week period. Since the start of

the health crisis, remote working has certainly proved to be effective without impacting collective work or the fluidity of dialogue, thanks to the digital tools adopted by EFS. Moreover, by improving the work-life balance, teleworking will also increase the Establishment's appeal to recruit new talented individuals.



A ROADMAP AND NEW TOOLS TO ACCELERATE THE DIGITAL TRANSFORMATION

As the information system is at the heart of the transfusion chain and its safety, and because it is essential to interactions between the Establishment, its donors and partners, it is also at the heart of its transformation.

Consequently, EFS finalised its Digital Transformation Master Plan (DTMP) in 2021.

Drafted jointly with users who expressed their needs through a survey, the DTMP includes several steps, the first of which has just been completed with the consolidation of existing tools. "We noted that EFS was slightly behind in terms of updating certain software versions or renewing hardware, etc. We had to settle this technical debt before we could look to the future," explains Vincent Dussaucy, the new EFS IT Director.

A mutual IT support system was also tested in five regions, with a single point of contact for any technical problem and request tracking 24/7. "This trial has allowed us to provide users with a higher level of service and to optimise our resources. We are therefore planning to extend it to the whole of mainland France and then to the French overseas departments and regions during 2022." Following this consolidation phase, it is now time

to optimise the services provided and to develop new tools with more extensive functions. A new platform for medical-technical software was installed very recently. The IT resources will be reorganised by the end of 2022 with a single IT Department for the entire Establishment. A brochure outlining services will also be available to users, while the regions will be able to pool their requests, experiences and IT solutions. And as for teleworking, following an initial year disrupted by COVID-19, the quality of the tools has improved and stabilised in 2021. "Today, all employees share virtually identical IT working conditions. This applies whether they work from home or in their office at EFS," concludes Vincent Dussaucy.

*CPD organisations are bodies registered by the French National Agency for Continuing Professional Development (CPD) to provide CPD to health professionals.

OUR MANAGEMENT AND GOVERNANCE BODIES

EXECUTIVE BOARD (EB)

The Executive Board is the steering body of EFS. It sets out the Establishment's general policies, in particular those concerning the deployment of EFS's activities, the promotion of donation and the medical and research policy. It meets at least three times a year.

► see the list of members on page 26

EXECUTIVE COMMITTEE

The Executive Committee is a guidance, strategic arbitration and decision-making body that examines all the issues that affect the course taken by EFS and that require a wide range of views. It meets every fortnight and is composed of the President of EFS, the Person Responsible for LBP, the Chief of Staff, the President's Advisor, the Managing Director of Resources and Performance, the Managing Director of the Blood Transfusion Chain, Therapeutic Activities and Development, the Communication and Branding Manager and an EFS regional establishment Director appointed for one year.

► see the list of members on page 03

NATIONAL DIRECTORS' COMMITTEE

The National Directors' Committee, which includes the regional establishment directors and national directors, is a forum for informing directors with a view to aligning the entire management structure of EFS. It is also a forum for dialogue and helps to draft the Establishment's policies and strategic decisions. It issues opinions in order to clarify EXCOM decisions. It meets every month.

► see the list of members on page 26

THE ESTABLISHMENT'S DIRECTORS' COMMITTEE

The Establishment's Directors' Committee is a forum for exchanging the latest information on regional establishments and for sharing experiences and good practices to promote the harmonising of organisations. It analyses the impacts of national projects and may propose topics to be investigated in greater depth by the Establishment.

► see the list of members in the organisation chart on page 27

SCIENTIFIC ADVISORY BOARD

The Scientific Advisory Board is an independent, multidisciplinary, consultative body whose members are appointed by the French Ministry of Solidarity and Health. It incorporates a wide range of experience and expertise including international members. The Scientific Advisory Board is responsible for giving opinions and recommendations on medical, scientific and technical issues and is involved in establishing the blood transfusion research policy and assessing research programmes conducted by the Establishment. It meets three times a year.

AUDITING COMMITTEE

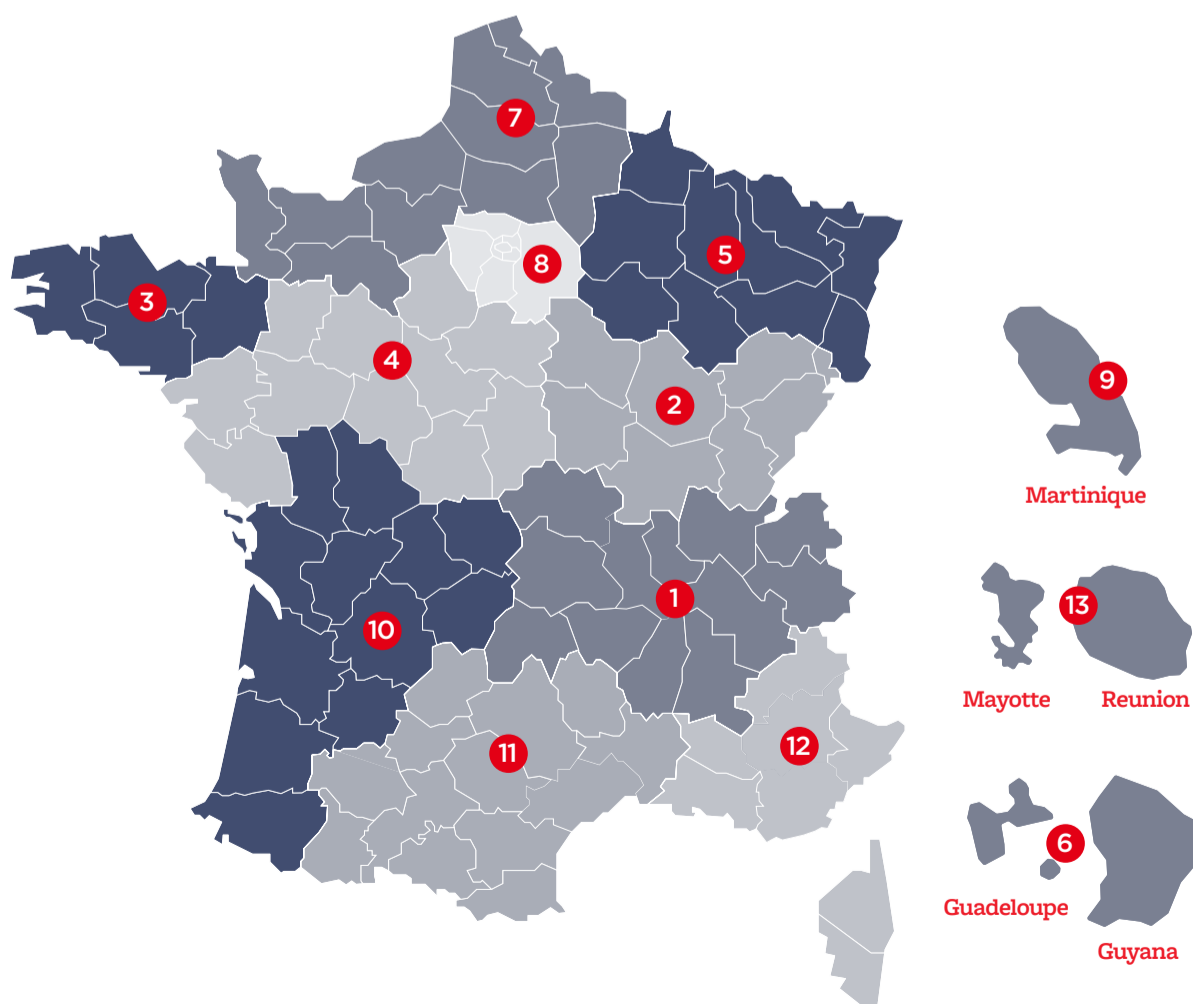
The Auditing Committee informs the Executive Board on matters relating to accounting and financial issues, monitoring the effectiveness of the risk management and internal control systems, with priority given to processes with a strong impact on the accounts, and the examination and monitoring of internal and external auditing programmes. It meets three to four times a year, prior to the Executive Board meeting.

ETHICS AND PROFESSIONAL CONDUCT COMMITTEE

The Ethics and Professional Conduct Committee is a multidisciplinary, pluralist, consultative and independent body created by the EFS Executive Board. It is responsible for ensuring the consistency of EFS's principles with all of its activities and assists the President and Executive Board in specific areas of competence. It issues independent, objective opinions and recommendations on the ethical and professional conduct issues involved in EFS's activities and operations. Comprising 14 members representing a wide range of experience and expertise, it meets at least twice a year, and at the request of the General Director for Health or the EFS President.

OUR TERRITORIAL ORGANISATION

- 1 EFS Auvergne - Rhône-Alpes
- 2 EFS Bourgogne - Franche-Comté
- 3 EFS Bretagne
- 4 EFS Centre - Pays de la Loire
- 5 EFS Grand-Est
- 6 EFS Guadeloupe - Guyane
- 7 EFS Hauts-de-France - Normandie
- 8 EFS Île-de-France
- 9 EFS Martinique
- 10 EFS Nouvelle-Aquitaine
- 11 EFS Occitanie
- 12 EFS PACA - Corse
- 13 EFS La Réunion - Océan Indien



MEMBERS OF THE NATIONAL DIRECTORS' COMMITTEE as of 30 June 2022

● Executive Committee
 ● National Directors
 ● Directors of Regional Establishments



François Toujas
President of EFS



Dr Laurent Bardiaux
Director of EFS Occitanie
Pyrénées Méditerranée



Thierry Baudonet
Chief Security and
Defence Officer



Stéphane Bégué
Director of EFS Guadeloupe -
Guyane and EFS Martinique



Jacques Bertolino
Deputy Managing Director for
Resources and Performance



Dr Christophe Besiers
Director of EFS
Bourgogne - Franche-Comté



Dr Frédéric Bigey
Director of EFS
Centre - Pays de la Loire



Christine Bizien
Director of Procurement,
Property and Maintenance



Franck Blettery
Central Accounting Officer



Dr Cathy Bliem
Managing Director of the Blood
Transfusion Chain, Therapeutic
Activities and Development



Karine Bornarel
Legal and Conformity Director



Pr Jacques Chiaroni
Director of EFS PACA-Corse



Dr Bruno Danic
Director of EFS Bretagne



Dr Frédéric Dehaut
Director of Biology, Therapeutic
Activities, and Diagnostics



Dr Idriss Delouane
Director of EFS
La Réunion - Océan Indien



Vincent Dussaucy
Director of Information
Technology



Dr Anne Fialaire Legendre
Responsible Person for TC
Responsible Pharmacist ATMP
Responsible Person for ATMP PP



Frédéric Gazda
President's Advisor



Claire Huault
Director of the Innovation and
Strategic Studies Department



Dr Michel Jeanne
Director of EFS
Nouvelle-Aquitaine



Marie-Émilie Jéhanno
Managing Director of Resources
and Performance



Dr Daniel Kientz
Director of EFS Grand-Est



Dr Sophie Le Cam
Deputy Managing Director of the
Transfusion Chain, Therapies
and Development



Dr Dominique Legrand
Director of EFS
Auvergne - Rhône-Alps



Dr Annie-Claude Manteau
Director of EFS
Hauts-de-France - Normandie



Dr Hervé Meinrad
Director of LBP Collection
and Production



Nicolas Merlière
Risk, Audit and Quality Director



Dr Pascal Morel
Responsible Person for LBP
and Director of Research
and Technology Transfer



Nathalie Moretton
Chief of Staff



Philippe Moucherat
Communication, Branding
and Marketing Director



Stéphane Noël
Director of EFS
Île-de-France



Dr Pascale Richard
Medical Director



Dr Thierry Schneider
Director of International Affairs



Nathalie Serre
Director of Financial Affairs



Nicolas Tunesi
National Human Resources
Director



Thierry Zunino
Director of Campus EFS

DR Photos

MEMBERS OF THE EXECUTIVE BOARD

By decree*, the following are appointed members of the EFS Executive Board:

As representatives from the French government

As representatives of the
Ministers of Health and
Social Affairs

- **Hélène Monasse**, permanent
- **Grégory Emery**, deputy
- **Cécile Lambert**, permanent
- **Matthieu Leclercq**, deputy
- **Yann Debos**, permanent
- **Béatrice Tran**, deputy

As representatives of the
Minister of Social Security

- **Charlotte Masia**, permanent
- **Timothée Mantz**, deputy

As representatives of the
Minister of Defence

- **Anne-Christine Mendes**, permanent
- **Jean-Jacques Lataillade**, deputy

As representatives of the
Minister for the Budget

- **John Houldsworth**, permanent
- **Marie Chanchole**, deputy

As representatives of the
Minister for the Economy
and Finances

- **Roxane Spinardi**, permanent
- **Michel Rao**, deputy
- **Ambroise Pascal**, permanent
- **Pauline Clairand**, deputy

As representatives of the
Minister for Research

- **Catherine Perrault**, permanent
- **Francis Barin**, deputy

As representatives of the
Minister for Higher Education

- **François Couraud**, permanent
- **Orianne Wagner-Ballon**, deputy

As representatives of the
Minister for French Overseas
Territories

- **Pierre-Emmanuel Bartier**, permanent
- **Corinne Locatelli-Jouans**, deputy

As representatives from organisations and associations

As named health insurance
representatives proposed by
the Boards of Directors of
the French National Health
Insurance Agency and the
Central Agricultural Social
Mutual Fund

- **Pascale Vatel**
- **Nicolas Bondonneau**

As representative of Health
System User Associations
accredited under the
conditions provided for in
Article L 1114-1, Member of
the French Association for
Haemophiliacs

- **Thomas Sannie**

As representatives of blood
donor associations, appointed
on the proposal of the French
Federation for Voluntary
Blood Donation

- **Jacques Allegra**
- **Maryannick Jaouen Ravasse**

As representative of the
French Hospital Federation
(FHF)

- **Christine Broissand**

As representative of Private
Hospital Organisations

- **Guillaume Fèvre**

As EFS Employee
Representatives**

- **Stéphanie Thiriot**, permanent
- **Daniel Bloom**, deputy
- **Frédéric Didelot**, permanent
- **Élodie Bernard**, deputy

As qualified experts

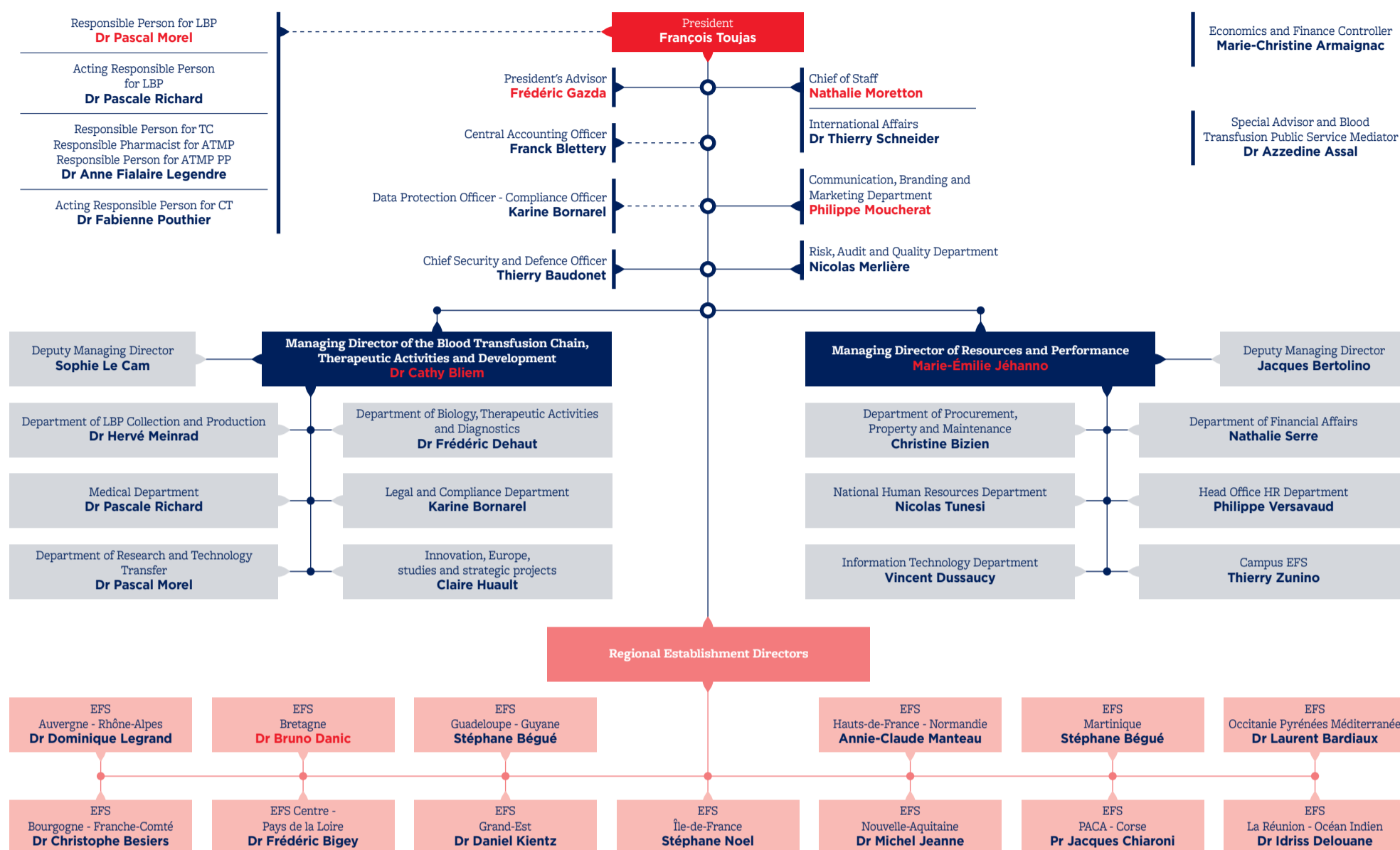
- **Bernard Lassale**
- **Macha Woronoff**

* Decree for appointment to the EFS Executive Board dated 02/07/2022.

** Without decree.

ORGANISATION CHART as of 30 June 2022

Members of the Executive Committee — Hierarchical link - - - - Functional link



THE EFS ECOSYSTEM

BLOOD DONATION ACTORS
 1.6 million volunteer blood donors & essential partners mobilised for blood donation: donor associations and, first and foremost, the FFDSB, collection partners (companies, local authorisations, universities, etc.).

EBA | **Media** Vital links in blood drives | **CTSA**

PUBLIC HEALTH ACTORS
 EFS is in contact with a large number of public entities dedicated to promoting health, especially:

- ANSM (certifies and audits regional establishments, controls labile blood products and oversees the haemovigilance network),
- French Agency of Biomedicine (coordinates the development of cell therapy and tissue banks as well as voluntary bone marrow donation activities),
- French National Public Health Agency (analyses epidemiological data sent by EFS).

But also: French Regional Health Agencies (ARS), French High Authority on Health (HAS), ANSES, French National Health Insurance Agency, High Council for Public Health (Secproch).

THE INSTITUTIONAL SPHERE

- Supervisory authorities: Monitor EFS, drive legal and regulatory changes, set pricing for labile blood products.
- Ministry of Health and Prevention: DGS, DGOS, DSS
- Ministry of the Economy, Finances and Industrial and Digital Sovereignty: DB, DGCCRF, DGE
- Ministry of Higher Education and Research
- Ministry of French Overseas Territories

Prefectures | **Elected, associations of elected officials, local authorities** | **European Union** | **International cooperation Expertise France, AFD, WHO**

TRANSFUSION EXPERTISE

With expertise in medicine and transfusion and transplant biology, EFS works in conjunction with numerous learned societies on treatment/care as well as cell and tissue therapy. It also gives expert advice to education and research.

Learned societies: AABB, ISBT, SFAR, SFBCT, SFGM-TC, SFH, SFHI, SFMU, SFTS and SFVTT.

Research: Inserm (research units in certain EFS regional establishments), AVIESAN, CNRS.

Teaching: Universities and Campus EFS (the EFS training organisation).

CERTIFICATION AND ACCREDITATION ORGANISATIONS

Certification organisations (Afnor, Apave) | **Accreditation organisations** (Cofrac, JACIE) | **Reporting bodies** (GMed, EFI)

THE PARTNERS SERVING PATIENTS
 Health establishments and clinicians, primary clients & partners of EFS serving patients. They purchase labile blood products from EFS, entrust laboratory work to EFS and develop research partnerships with EFS.

Patient associations

Suppliers

Medical biology laboratories

PLTR clients (training establishments, medical research organisations)

LFB Fractionates the plasma collected by EFS to make blood-derived medicinal products

LEEM

GLOSSARY

BLOOD DONATION ACTORS
 CTSA: Armed Forces Blood Transfusion Centre
 EBA: European Blood Alliance
 FFDSB: French Voluntary Blood Donors' Association

THE PARTNERS SERVING PATIENTS
 LEEM: French industry association representing drug companies
 PLTR: Products for use in laboratories, teaching and research

THE INSTITUTIONAL SPHERE
 AFD: French Development Agency
 DB: Budget Directorate
 DGCCRF: Competition, Consumption, and Anti-Fraud General Directorate
 DGE: Directorate General for Enterprise
 DGOS: General Directorate for Healthcare Services
 DGS: General Directorate for Health
 DSS: Directorate of Social Security
 WHO: World Health Organization

TRANSFUSION EXPERTISE
Learned societies:
 AABB: American Association of Blood Banks
 ISBT: International Society of Blood Transfusion
 SFAR: French Society of Anaesthesia & Intensive Care Medicine
 SFBCT: French Society of Cell and Tissue Bioengineering
 SFGM-TC: Francophone Society of Bone Marrow Transplantation and Cellular Therapy
 SFH: French Society of Haematology
 SFHI: Francophone Society for Histocompatibility and Immunogenetics
 SFMU: French Society of Emergency Medicine
 SFTS: French Society of Blood Transfusion
 SFVTT: French Society of Vigilance and Transfusion Therapeutics

Research:
 AVIESAN: French National Alliance for Health and Life Sciences
 CNRS: French National Centre for Scientific Research
 INSERM: French National Institute of Health and Medical Research

PUBLIC HEALTH ACTORS
 ANSES: French Agency for Food, Environmental and Occupational Health & Safety
 ANSM: French National Agency for Medicines and Health Products Safety

CERTIFICATION AND ACCREDITATION ORGANISATIONS
 AFNOR: French Standardisation Association
 COFRAC: French Accreditation Committee
 JACIE: Joint Accreditation Committee ISTC EBMT

2021

IN FIGURES

In this report:
the key figures for EFS and its stakeholders in 2021.

These key figures highlight the solidity of the EFS model which, despite the health crisis, has succeeded in guaranteeing self-sufficiency in labile blood products (LBP) every day.

DONORS AND BLOOD COLLECTION

1,512,221 DONORS
(-3.19% compared to 2020)



Between 2020 and 2021, the downward trend has been confirmed for almost all activity indicators.

For the past two years, blood collection has been severely affected by ongoing pressures linked to the impact of the COVID-19 health crisis (cancellation of blood drives in companies and universities, reduced mobilisation of donors who were often infected themselves, coupled with difficulties in recruiting medical staff, etc.). Although below initial targets, the quantity of blood collected and donor mobilisation meant that patients' needs could still be met. Self-sufficiency was guaranteed under optimum safety conditions for donors, LBP recipients and colleagues alike.



3.46%
OF THE POPULATION OLD ENOUGH TO DONATE BLOOD (LEVEL OF GENEROSITY)

85.1%
OF DONORS KNOWN (I.E. 1,287,148 DONORS)

14.9%
OF NEW DONORS (I.E. 225,073 DONORS)

62.9%
OF KNOWN DONORS IN 2020 GAVE BLOOD AGAIN IN 2021

2,760,409 DONATIONS

BREAKDOWN BY DONATION TYPE
(not including granulocytes and autologous)



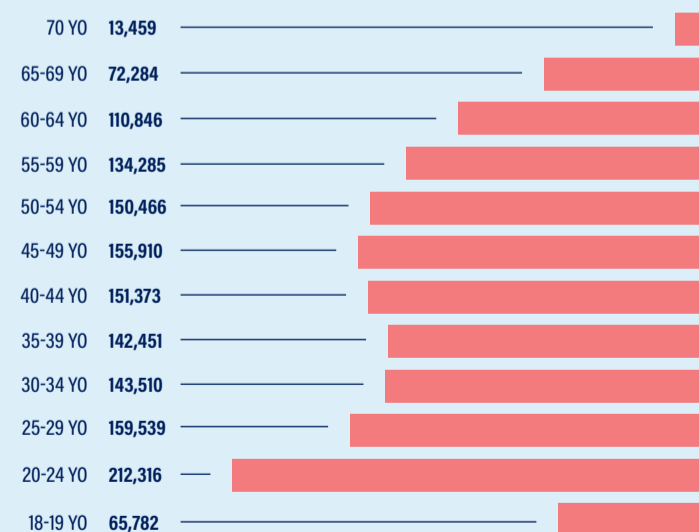
259,762 PLASMA
90,368 PLATELETS
2,410,279 WHOLE BLOOD

BREAKDOWN BY DONOR GENDER



45.7% MALE
54.3% FEMALE

BREAKDOWN BY DONOR AGE GROUP



10.2%
APPLICATIONS WITHOUT DONATION
(applicants who did not give blood)

1.83 DONATIONS ON AVERAGE
per donor and per year

BY DONATION TYPE



1.67
FOR WHOLE BLOOD DONATIONS

2.33
FOR PLASMA DONATIONS

2.33
FOR PLATELET DONATIONS

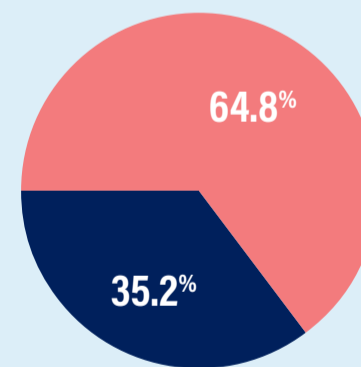
BY DONOR TYPE



1.88
FOR KNOWN DONORS

1.37
FOR NEW DONORS

BREAKDOWN OF DONATIONS by collection type



MOBILE COLLECTIONS

1,788,274 DONATIONS
(OF WHICH 1,788,272 WHOLE BLOOD)

28,667 COLLECTIONS



BLOOD DONATION CENTRES

972,135 DONATIONS
(OF WHICH 622,007 WHOLE BLOOD, 259,762 PLASMA, 90,368 PLATELETS)

109 CENTRES

7%
OF APPLICATIONS DID NOT MEET THE DONOR SELECTION CRITERIA

17,000
BLOOD DONATIONS DID NOT PASS THE BLOOD SCREENING PHASE (QBD)

COLLECTIONS

PGC FROM WHOLE BLOOD BUFFY COATS

Since 2020, EFS has developed a new labile blood product (LBP): pooled granulocyte concentrates from whole blood buffy coats (PGC). This product is used to treat patients with a quantitative or qualitative polynuclear neutrophil disorder and a serious, uncontrolled bacterial or fungal infection. Derived from whole blood, this product is an interesting alternative to apheresis granulocyte concentrates (AGC), which are more complex to produce and use. In 2021, 281 PGC were produced and used in the transfusion of 49 patients (compared to 42 in 2020).

2,760,409 COLLECTIONS IN 2021

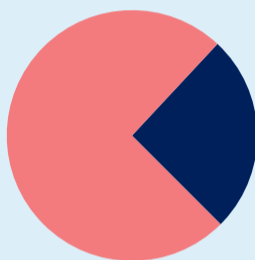
↓
-2.10%
COMPARED TO 2020

↓
2,410,279
BLOOD DONATIONS

↓
350,130
APHERESIS DONATIONS
(-11.9% COMPARED TO 2020)

BREAKDOWN OF APHERESIS DONATIONS

PLASMA APHERESIS
259,762 COLLECTIONS
I.E. 74% OF APHERESSES
(-13.8% COMPARED TO 2020)



CELL APHERESIS
90,368 PROCEDURES
I.E. 26% OF APHERESIS
PROCEDURES (+6.1%
COMPARED TO 2020)

- OF WHICH APC/PLASMA: 88,189 (98%)
- OF WHICH RBCC/APC/PLASMA: 2,179 (2%)
- NO AGC

OUR PRODUCTION SITES



- 18 PREPARATION FACILITIES
- 4 BLOOD SCREENING LABORATORIES
- 2 BIOBANKS

QUALITY CONTROL OF OUR BLOOD PRODUCTS

LABILE BLOOD PRODUCTS

(cell LBP)

	RED BLOOD CELL CONCENTRATES (RBCC) Their active ingredient is haemoglobin	APHERESIS PLATELET CONCENTRATES ATTENUATED TO PATHOGENIC AGENTS BY INTERCEPT TREATMENT (APC-IA) Their active ingredient is the total platelet count	POOLED PLATELET CONCENTRATES ATTENUATED TO PATHOGENIC AGENTS BY INTERCEPT TREATMENT (PPC-IA) Their active ingredient is the total platelet count
Regulations	The RBCC must contain at least 40g of haemoglobin (Hb)	APC-IA must contain at least 2.0×10^{11} platelets	PPC-IA must contain at least 2.0×10^{11} platelets
Average active ingredient content EFS 2021	55.3G of haemoglobin	$4.8 \cdot 10^{11}$ platelets	3.3×10^{11} platelets
EFS 2021 compliance rate	99.2%	99.8%	100%

THERAPEUTIC PLASMAS

Regulations	<p>THERAPEUTIC PLASMA (Q-AFFP AND Q-FFP, FFP-IA AND POOLED FFP-IA)</p> <p>The relevant test methods and standards for FVIII and fibrinogen vary according to the method used to safeguard the plasma:</p> <ul style="list-style-type: none"> • for FFP-IA and pooled FFP-IA, the minimum requirement for FVIII is 0.5 IU/ml for a minimum of 70% of controlled units and 2 g/l fibrinogen for a minimum of 70% of controlled units • As regards the plasma safeguarded by a 60-day quarantine period (Q-AFFP and Q-FFP), the minimum requirement for FVIII is 0.7 IU/ml
EFS 2021 compliance rate	ALL OF THE QUARANTINED FFP-IA AND FFP PREPARED BY EFS IS COMPLIANT with these requirements



RESIDUAL LEUKOCYTE CONTENT FOR CELL LBP

In terms of leukocyte reduction, the minimum percentage of compliant units stipulated by regulations is 97%. **All of the RBCC, APC-IA and PPC-IA prepared by EFS are compliant with these requirements.**



RESIDUAL LEUKOCYTE CONTENT FOR THERAPEUTIC PLASMAS

In terms of leukocyte reduction for plasmas for therapeutic use, the minimum percentage of compliant units stipulated by the regulations is 95%. **All of the FFP prepared by EFS is compliant with these requirements.**

ISSUING OF PRODUCTS (LBP)

143 EFS SITES
DELIVER LABILE BLOOD PRODUCTS
THROUGHOUT MAINLAND FRANCE

↓

136
DISTRIBUTE TO BLOOD BANKS

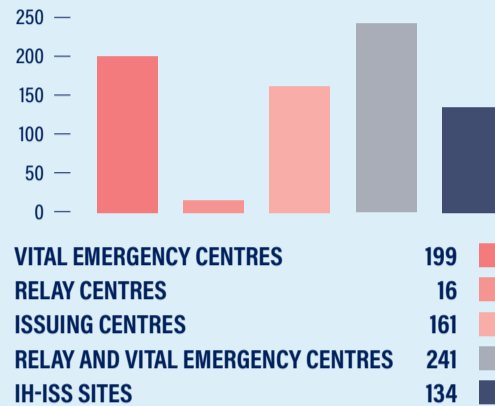
↓

617
BLOOD BANKS ARE SPREAD ACROSS FRANCE, INCLUDING 199 FOR VITAL EMERGENCY

↓

1,500
HEALTH CARE INSTITUTIONS SERVED

TYPES OF BLOOD BANK



0.07%
THE SHELF LIFE LOSSES OF RED BLOOD CELL CONCENTRATES (RBCC) IN 2021

24/7
EFS ISSUING SITES ARE AVAILABLE 24/7 TO HEALTH CARE ESTABLISHMENTS AND THEREFORE TO PATIENTS, AND PROVIDE TRANSFUSION ADVICE

UNITS OF BLOOD COMPONENTS ISSUED

2,302,457
RED BLOOD CELL CONCENTRATES (RBCC) ISSUED IN 2021, I.E. +1% COMPARED TO 2020

839,416
LITRES OF PLASMA ISSUED TO THE FRENCH FRACTIONATION AND BIOTECHNOLOGIES LABORATORY (LFB), I.E. -2.91% COMPARED TO 2020, DUE TO THE REDUCTION IN PLASMAPHERESIS ACTIVITY

338,186
PLATELETS ISSUED IN 2021, I.E. +3.3% COMPARED TO 2020

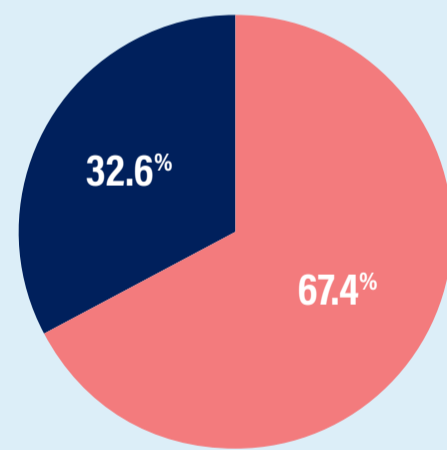
OF WHICH
→ **70.3%**
UNITS OF POOLED PLATELET CONCENTRATES (PPC)

OF WHICH
→ **237,622**
BAGS OF PPC, UP +6.6% COMPARED TO 2020

OF WHICH
→ **100,564**
BAGS OF APHERESIS PLATELET CONCENTRATES (APC) DOWN -3.7% COMPARED TO 2020

MEDICAL AND TRANSFUSION BIOLOGY

514,064 THOUSANDS OF BIOMEDICAL AND TRANSFUSION PROCEDURES IN 2021, I.E. +8.4% COMPARED TO 2020, GIVEN THE INCREASE IN ISSUING ACTIVITY IN 2021



BREAKDOWN BY TYPE OF PROCEDURE (in thousands)

HLA PROCEDURES AND OTHER LABORATORY TESTS 167,645
32.6% correspond to biology tests other than IH, most of which are immunogenetic tests

RCI PROCEDURES 346,419
67.4% of these tests essential for patient transfusion involved red cell immunohaematology (RCI)

14 HLA SITES
across mainland France contribute to the treatment of transplant patients. The majority are volunteer bone marrow donor centres. They have helped to enhance the French Bone Marrow Transplant Registry kept by the Agency of Biomedicine (ABM)

15,182
VOLUNTEER BONE MARROW DONORS (VBMD)
registered at EFS centres in 2021, i.e. an increase of +56.3% compared to 2020, and 4,791 at mixed VBMD centres [CHU (university hospitals)/EFS]

OUR SITES

16 REGIONAL LABORATORIES
(13 in mainland France and 3 in overseas territories)

134 IH SITES

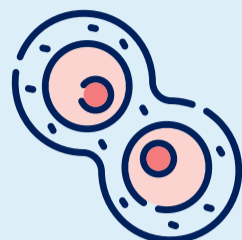
14 SITES ACROSS MAINLAND FRANCE
Histocompatibility/Immunogenetics-leuko-platelet immunology (HLA/HPA/HNA)

9 SITES ARE REFERENCE LABORATORIES

THERAPIES

9

THE NUMBER OF REGIONAL ESTABLISHMENTS OFFERING CELL THERAPY ACTIVITIES, THE DEVELOPMENT AND PRODUCTION OF ADVANCED THERAPY MEDICINAL PRODUCTS (ATMPs) AND TISSUE BANKS



CELL THERAPIES

16 cell therapy units

7,370 cell products received (haematopoietic stem cells, lymphocytes or blood placenta units)

3,334 patients transplanted

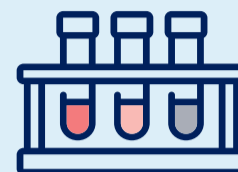


ADVANCED THERAPY MEDICINAL PRODUCTS

3 projects accepted as part of the Major Biomanufacturing Challenge: THERACO related to tissue engineering, STELLAR related to pluripotent stem cells and AAP Leader Biomanufacturing related to mesenchymal stem cells

14 projects at the pre-clinical and clinical phase at the end of 2021

4 advanced therapy medicinal product (ATMP) platforms



TISSUE BANKS

8 tissue banks

5,115 tissues (excluding skin) issued in 2021 (4,562 corneas prepared, 2,329 corneas transplanted, 567 arteries prepared, 288 arteries transplanted)

98,225 cm² of transplanted skin

RESEARCH AND TECHNOLOGY TRANSFER

118



INDIVIDUALS DEDICATED TO RESEARCH

(full-time equivalents) distributed across 18 teams

€16.5M

TOTAL BUDGET, €11M OF WHICH IS FINANCED DIRECTLY BY EFS

246

PUBLICATIONS IN WHICH EFS IS REFERENCED

8

NEW CLINICAL RESEARCH DOSSIERS FILED WITH THE REGULATORY AUTHORITIES

212



TECHNOLOGY TRANSFER CONTRACTS

negotiated in 2021, of which 92 were signed in 2021

6

LICENSING AGREEMENTS AND LICENSING OPTIONS SIGNED

7

NEW PATENT APPLICATIONS INCLUDING 4 FILED BY EFS

MORE THAN

100

CONTACTS

6

NEW INVENTION DISCLOSURES

7

BUSINESS CONVENTIONS

66

PATENT FAMILIES IN THE PORTFOLIO

RPU REAGENT PRODUCTION UNIT

300

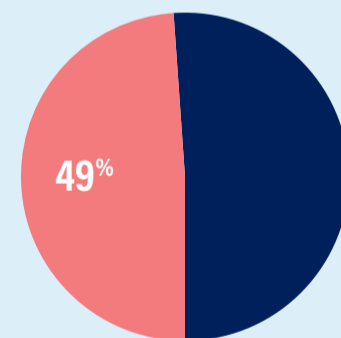
PRODUCT REFERENCES, including 33 IVDMD (in-vitro diagnostic medical devices) with a CE label and 1 new CE reference: CIQ EDA replacing CQI TDA in the brochure for the internal quality control of the direct antiglobulin test

€9.375M

A turnover of 9,375 million euros was generated by the RPU, up 9% compared to 2020

6

MANUFACTURING SITES Located in 5 regional establishments for the manufacture of in-vitro diagnostic medical devices (IVDMD) by the RPU



49%

share of turnover generated by EXTERNAL CLIENTS. As in 2020, internal and external activities were balanced.

REGULATIONS

The RPU has embarked on a procedure to ensure compliance with regulation 2017/746, which comes into force in May 2022. The actions undertaken and the alignment of resources will allow all RPU product references to be maintained. A satisfactory outcome was achieved with the ISO 13485 certification audit, highlighting the maturity of the process, team commitment to the ongoing improvement of the process and the implementation of an action plan in line with regulatory changes.

PLTR - PRODUCTS FOR USE IN LABORATORIES, TEACHING AND RESEARCH



PLTR SERVICES

PLTR (products for use in laboratories, teaching and research) services contribute to the establishment's public health mission by providing blood products which are vital for teaching and scientific progress. These donations, which are not used directly for transfusion purposes, represent an alternative for many prospective donors who are permanently deferred, or for first-time donors who have temporary contraindications to blood donation.

44
EMPLOYEES
(full-time equivalents)

€10,849k
10.8 million euros generated by the PLTR sector in 2021,
up 44.8% compared to 2020

> 800
EXTERNAL CLIENTS

320,000
PRODUCTS ISSUED,
I.E. +6% COMPARED TO 2020

Moreover, the PLTR teams make the necessary blood products available to internal analytical and research laboratories within EFS, in addition to the reagent production unit (RPU).

INCLUDING, BY PURPOSE:

↓
20%
OF TUBES AND TUBING
INTENDED FOR TEACHING
PURPOSES

↓
50%
OF PRODUCTS INTENDED FOR QUALITY
CONTROL PURPOSES AND TO DEVELOP AND
MANUFACTURE REAGENTS (IVDM)

↓
30%
OF PRODUCTS
ISSUED FOR
SCIENTIFIC PURPOSES

HEALTH CENTRES

8,735
APHERESIS
PROCEDURES
(not including HSC) with

2,702
PLASMA EXCHANGES

2,546
RED BLOOD CELL EXCHANGES

4 IMPORTANT
ACTIVITIES

- 🔴 CELL COLLECTION
- 🔴 THERAPEUTIC APHERESIS
- 🔴 TRANSFUSIONS
- 🔴 BLOOD-LETTING PROCEDURES

TEAMS

The health centre teams mainly receive patients on an outpatient basis, but they also travel to health care establishments where necessary.

2,276

collections of autologous and 379 allogeneic blood haematopoietic stem cells (HSC), in addition to 496 donations of mononuclear cells and 3,487 extracorporeal photochemotherapy procedures (EPC).

25
HEALTH CENTRES
spread across regional establishments

54
collections for CAR-T cell
production in 2021, carried out
in 12 approved health centres

1,212
TRANSFUSIONS

13,273
BLOOD-LETTING
PROCEDURES
in patients presenting haemochromatosis
or other iron overload disorders

VIGILANCE

224.6

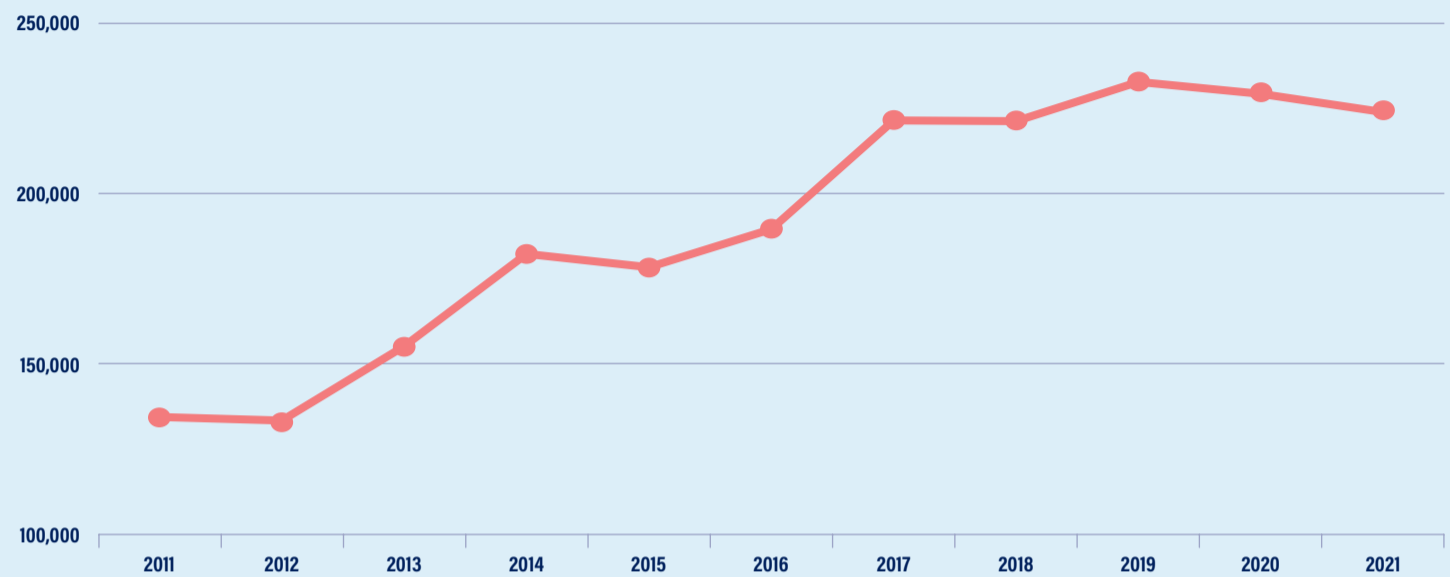
SEVERE DONOR ADVERSE EVENTS (SDAE) PER 100,000 DONATIONS IN 2021 (COMPARED TO 230.1 IN 2020)



82.7%

were reported as vasovagal reactions. As in previous years, vasovagal reactions remain significant and appear to be the main adverse event. However, their frequency has decreased slightly from 190.30 in 2020 to 185.73 in 2021.

CHANGES IN THE FREQUENCY OF SEVERE DONOR ADVERSE EVENTS (SDAE) PER 100,000 DONATIONS



1,919

ITEMS RELATING TO POST-DONATION INFORMATION WERE REPORTED IN 2021 (COMPARED TO 1,967 IN 2020)

Post-donation information (PDI) is any information about the donor or donation discovered after a donation that could compromise the quality or safety of blood products obtained using that donation or earlier donations. The slight decrease in PDI is therefore encouraging. As in previous years, the risk of infection is still the main reason for PDI.

1

DEATH VERSUS 3 IN 2020 ATTRIBUTED TO TRANSFUSION IN 2021

The cause of death was acute pulmonary overload oedema in a 61-year-old female patient with known kidney failure receiving chemotherapy for adenocarcinoma of the head of the pancreas and transfused slowly with two packs of RBCC.

1

TRANSFUSION-BORNE BACTERIAL INFECTION (TBBi) IN 2021 VERSUS 0 IN 2020.

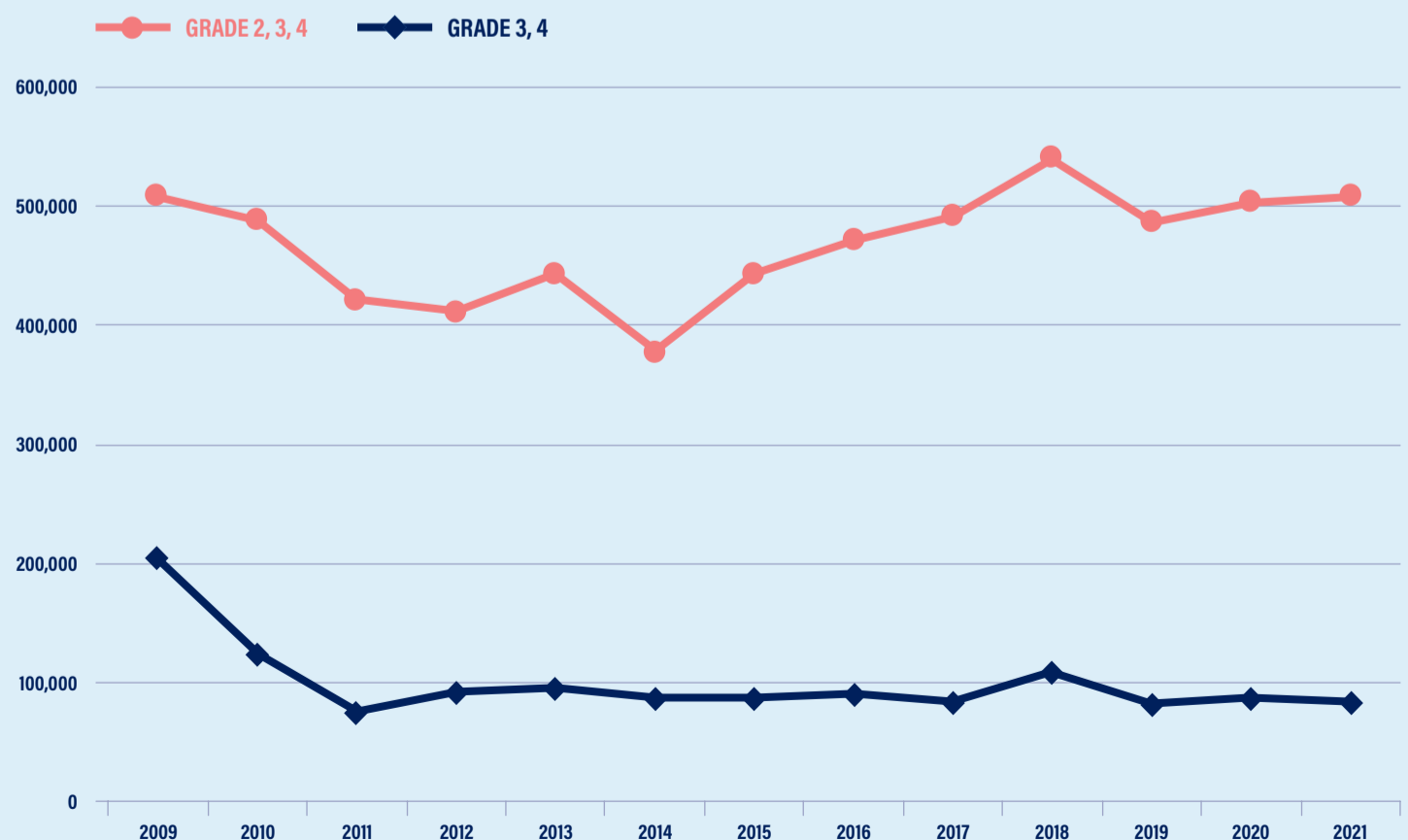
It occurred during a platelet concentrate transfusion in a 65-year-old male patient.

1,009

SERIOUS INCIDENTS (SI) IN THE TRANSFUSION CHAIN IN 2021, COMPARED TO 1,214 IN 2020

209 of these incidents occurred at EFS and 800 outside. Out of the 209 reports, 65 relate to the collection stage (versus 85 in 2020) and 124 the distribution/issuing stage (versus 102 in 2020).

CHANGES IN THE NUMBER OF RECIPIENT ADVERSE EVENTS (RAE) WITH A HIGH LEVEL OF IMPUTABILITY



9,518

RECIPIENT ADVERSE EVENTS (RAE) WERE REPORTED IN 2021.

taking all severities and all imputabilities into account (including 9,141 closed investigations), versus 9,002 in 2020 (of which 8,759 investigations are closed).

4

REAGENT VIGILANCE REPORTS WERE COMPILED IN 2021 COMPARED TO 10 IN 2020

The purpose of reagent vigilance is to monitor incidents and incident-related risks involving the in-vitro investigational medical devices (IVMDs). Two of these reports referred to immunohaematology (IH) testing and two to HLA immunology.

SOCIAL DATA REPORT

9,819

EMPLOYEES
AS AT 31 DECEMBER 2021



43

AVERAGE AGE

13

AVERAGE YEARS OF SERVICE

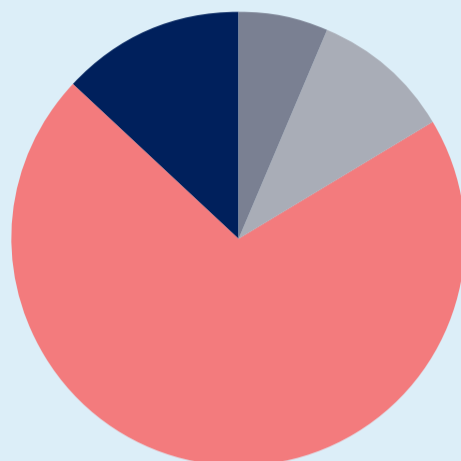
71.7%

OF STAFF INVOLVED IN A
TRANSFUSION CHAIN ACTIVITY

21.7%

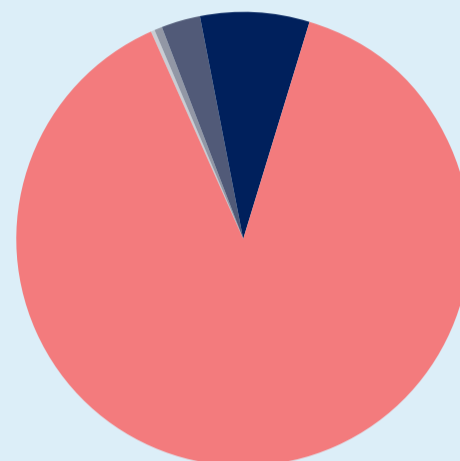
OF EMPLOYEES
ARE PART-TIME

BREAKDOWN OF THE WORKFORCE BY CATEGORY



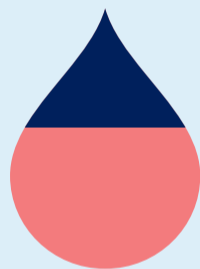
EMPLOYEES	6.6%
MEDICAL MANAGERS	9.9%
NON-MEDICAL MANAGERS	13.0%
TECHNICIANS AND SUPERVISORS	70.5%

BREAKDOWN OF THE WORKFORCE BY EMPLOYMENT CONTRACT



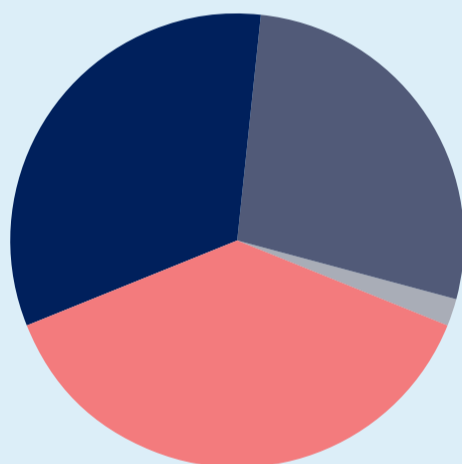
CONTRACTED PUBLIC SERVANTS	3
SECONDED FROM PUBLIC SERVICE	57
PERSONNEL MADE AVAILABLE FROM THE PUBLIC SECTOR	291
TEMPORARY WORKERS	745
PRIVATE-LAW EMPLOYEES	8,723

BREAKDOWN OF THE WORKFORCE BY GENDER



28.1% MALE
71.9% FEMALE

BREAKDOWN OF PART-TIME EMPLOYEES BY CATEGORY



NON-MEDICAL MANAGERS	1.4%
EMPLOYEES	20.6%
TECHNICIANS AND SUPERVISORS	24.6%
MEDICAL MANAGERS	28.6%

581 DISABLED WORKERS

(compared to 410 in 2020)*

THEIR PERCENTAGE OF THE WORKFORCE



6.8%

OF STAFF
ABOVE THE LEGAL
6% THRESHOLD

THEIR SOCIO- PROFESSIONAL CATEGORY



392

TECHNICIANS
AND SUPERVISORS

35

EMPLOYEES

28

NON-MEDICAL MANAGERS

26

MEDICAL MANAGERS

* Variation arising from a change in the calculation of the mandatory declaration of employment for disabled workers (DOETH)** Without decree.

808 HIRED ON PERMANENT CONTRACTS IN 2021

BREAKDOWN BY AGE



208

INDIVIDUALS HIRED WERE
UNDER 26 YEARS OLD

600

WERE AGED 26 OR ABOVE

BREAKDOWN BY CATEGORY



594

TECHNICIANS AND
SUPERVISORS WERE HIRED

94

MEDICAL MANAGERS

83

NON-MEDICAL MANAGERS

37

EMPLOYEES

BREAKDOWN BY ACTIVITY



77.9%

OF WHICH
WORK IN THE TRANSFUSION
CHAIN

AND 15.5%

PROVIDE A SUPPORT FUNCTION

2021

A publication by the Etablissement français du sang (French Blood Establishment), 20, avenue du Stade de France, 93218 La Plaine Saint-Denis cedex

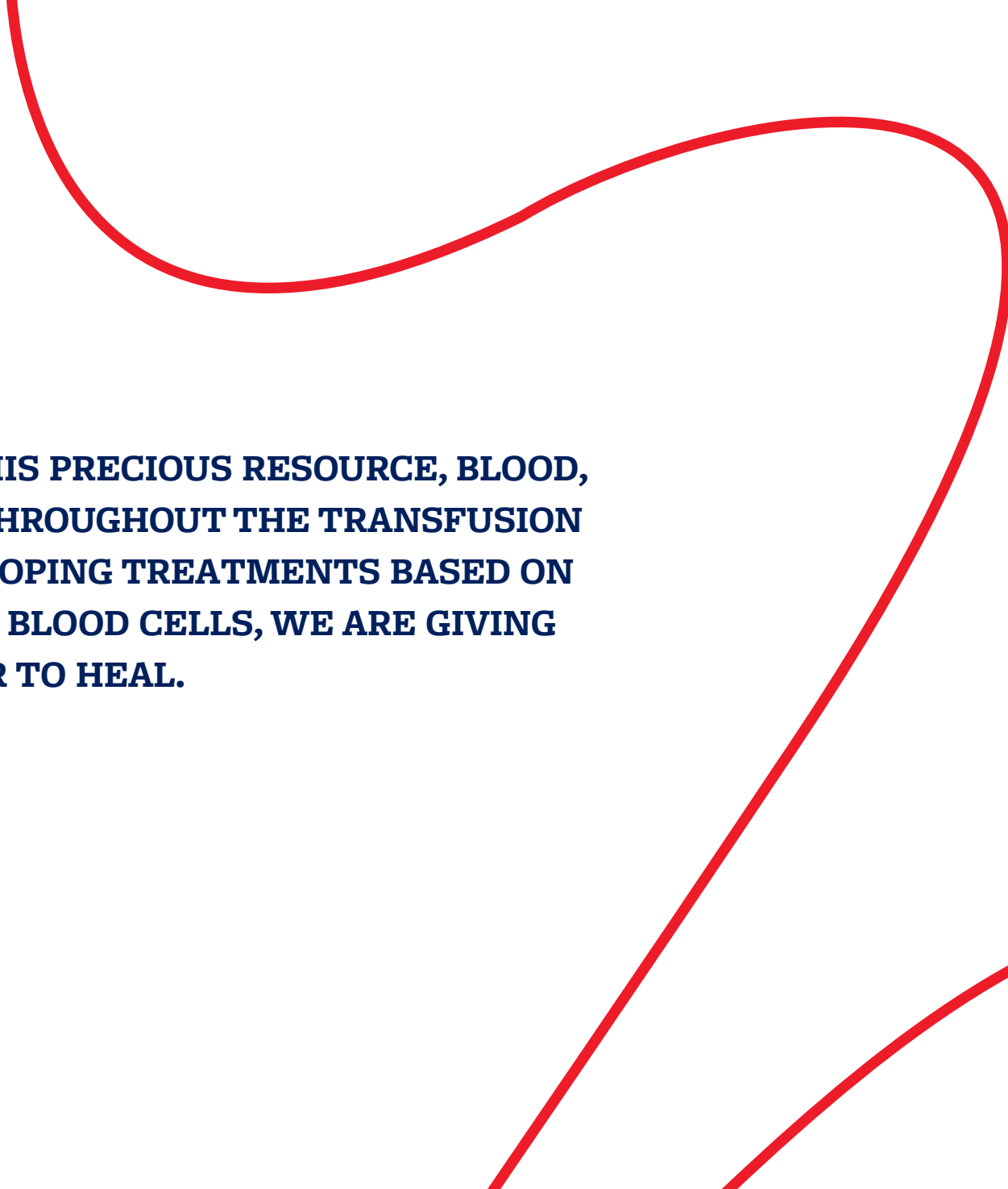
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The photos of unmasked individuals were taken before the COVID-19 pandemic or were subject to stringent sanitary measures (PCR testing before taking photos).

PRINTER INFO



**BY COLLECTING THIS PRECIOUS RESOURCE, BLOOD,
MAKING IT SAFE THROUGHOUT THE TRANSFUSION
CHAIN, AND DEVELOPING TREATMENTS BASED ON
OUR EXPERTISE IN BLOOD CELLS, WE ARE GIVING
BLOOD THE POWER TO HEAL.**

François Toujas



**Giving
blood
the power
to heal**