

**ETABLISSEMENT  
FRANÇAIS DU SANG**

**IPFA/EBA Workshop  
on plasma collection  
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AMSTERDAM**



# **MANAGEMENT OF BLOOD AND PLASMA COLLECTION**

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# BACKGROUND

The **plasma sector** in France :



**Etablissement Français du Sang (EFS)** : monopolistic position for collection and distribution of labile blood products in France, including plasma for fractionation.



**Laboratoire du Fractionnement et des Biotechnologies**  
Private plasma fractionator with 100% public funds, has the obligation to fractionate the plasma collected by EFS.

**Increase of LFB demand** since 2014

**Self-sufficiency** for immunoglobulines in France : **35%**

# THE SOURCES OF PLASMA

- **Recovered** plasma : WB 22% on fixed sites
  - 92% for **fractionation** (PFF)
  - 8% for **therapeutic** use, main source, secured by quarantine
- **Apheresis** plasma : 100% on fixed sites
  - 96% for **fractionation**
  - 4% for **therapeutic** use, additional source for **B** and **AB** groups,

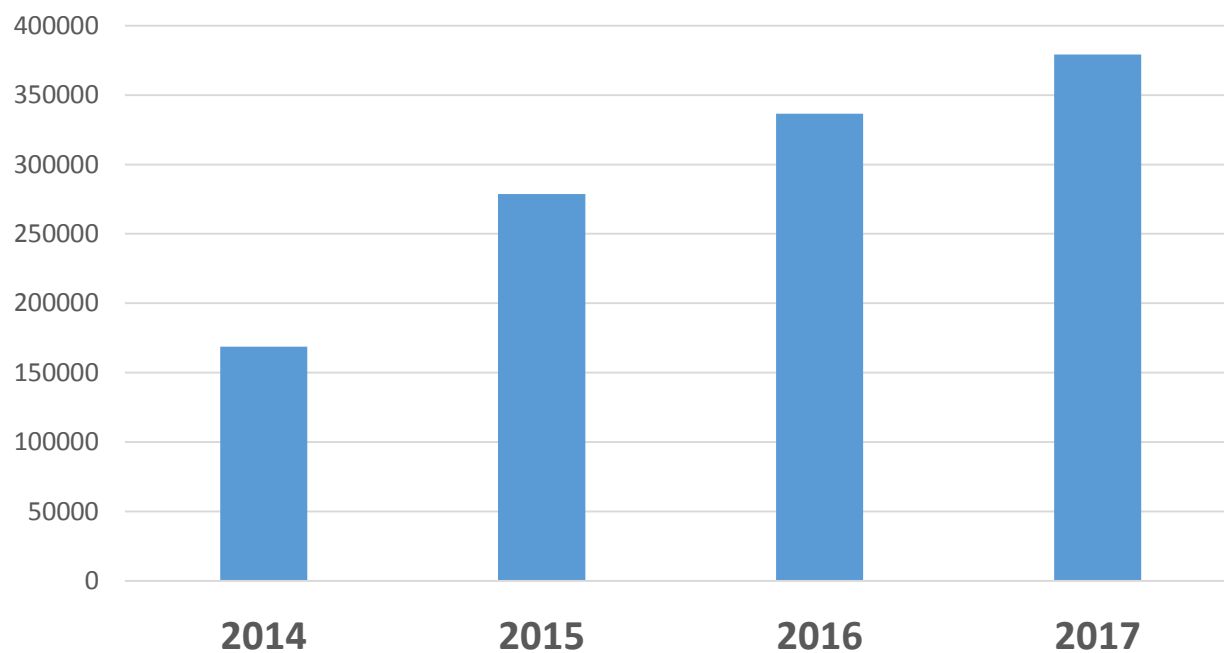
**PFF sources distribution** : ca. **900,000 L** of PFF/year last 2 years

Whole Blood		Apheresis		Total
Recovered for LFB	Quarantine failure	plasmapheresis	platelets apheresis	
61%	4%	33%	2%	100%

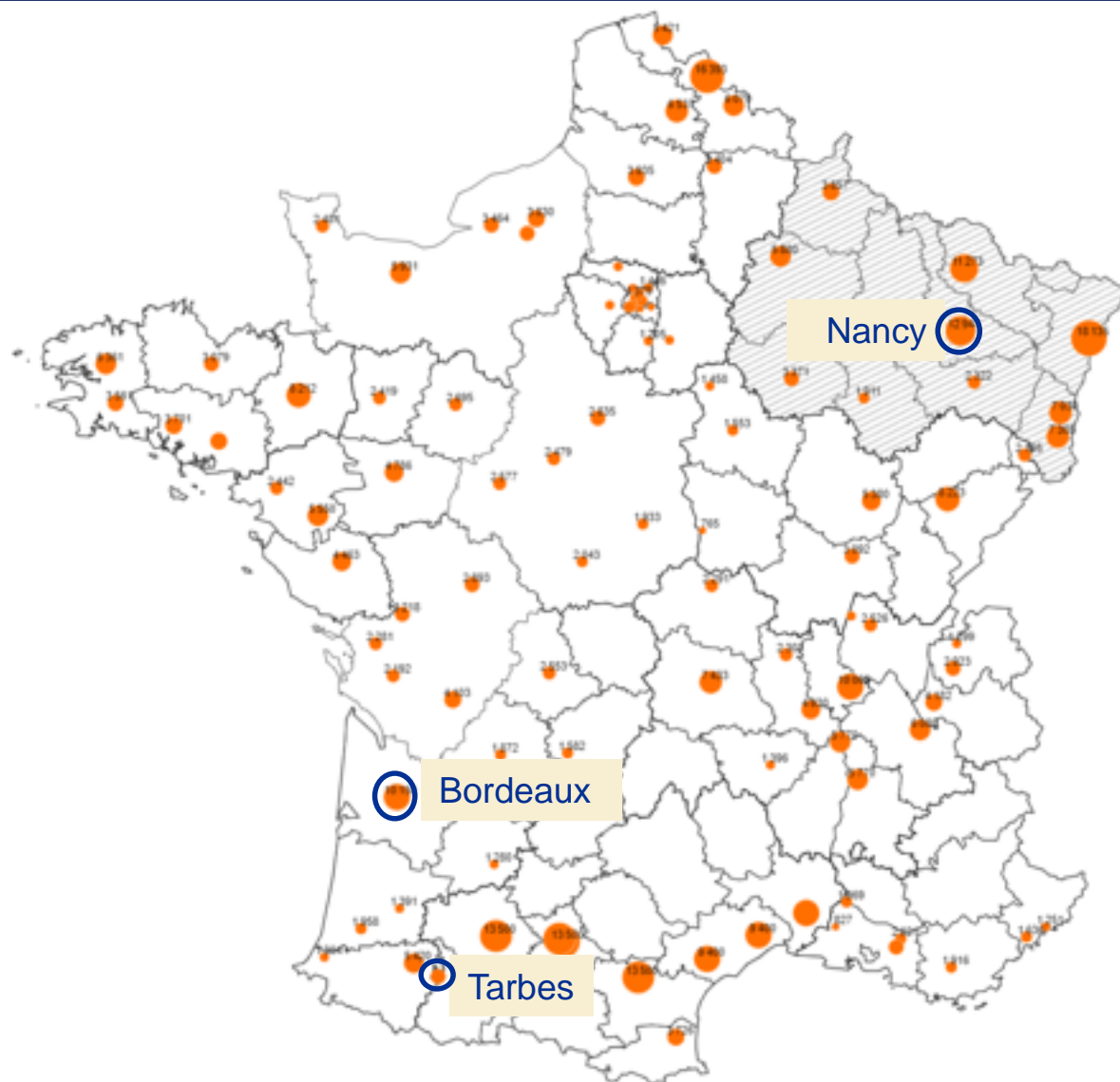
# PLASMAPHERESIS ACTIVITY

## Evolution of **plasmapheresis** 2014 - 2017

nb of plasmapheresis



# PLASMAPHERESIS SITES



109 sites

From **800** to **18,000**  
plasmapheresis per  
year, average **5,000**

**343,300**  
plasmapheresis in  
2018

# EXAMPLE OF EFFICIENT SITES

## 3 efficient sites, different features

2018	NANCY	BORDEAUX	TARBES	
Urban area population	435,000	1,215,000	116,000	
Number of beds	8	12	4	
Nb of plasmapheresis	12,600	9,800	2950	
Max. capacity	22,000	18,500	3000	with no heavy investment
Performance indicators (30km perimeter)				
Loyalty rate	2.97	2.25	3.17	average number of donations per donor/year
Conversion rate	26.4	15,6	15,4	number of plasma donors/100 WB donors
Plasma generosity rate	1.13	0.57	0.73	number of donors/population 18-65
% plasma donors	86%	91%	87%	proportion of plasma donors living in the area

## Efficiency depends on

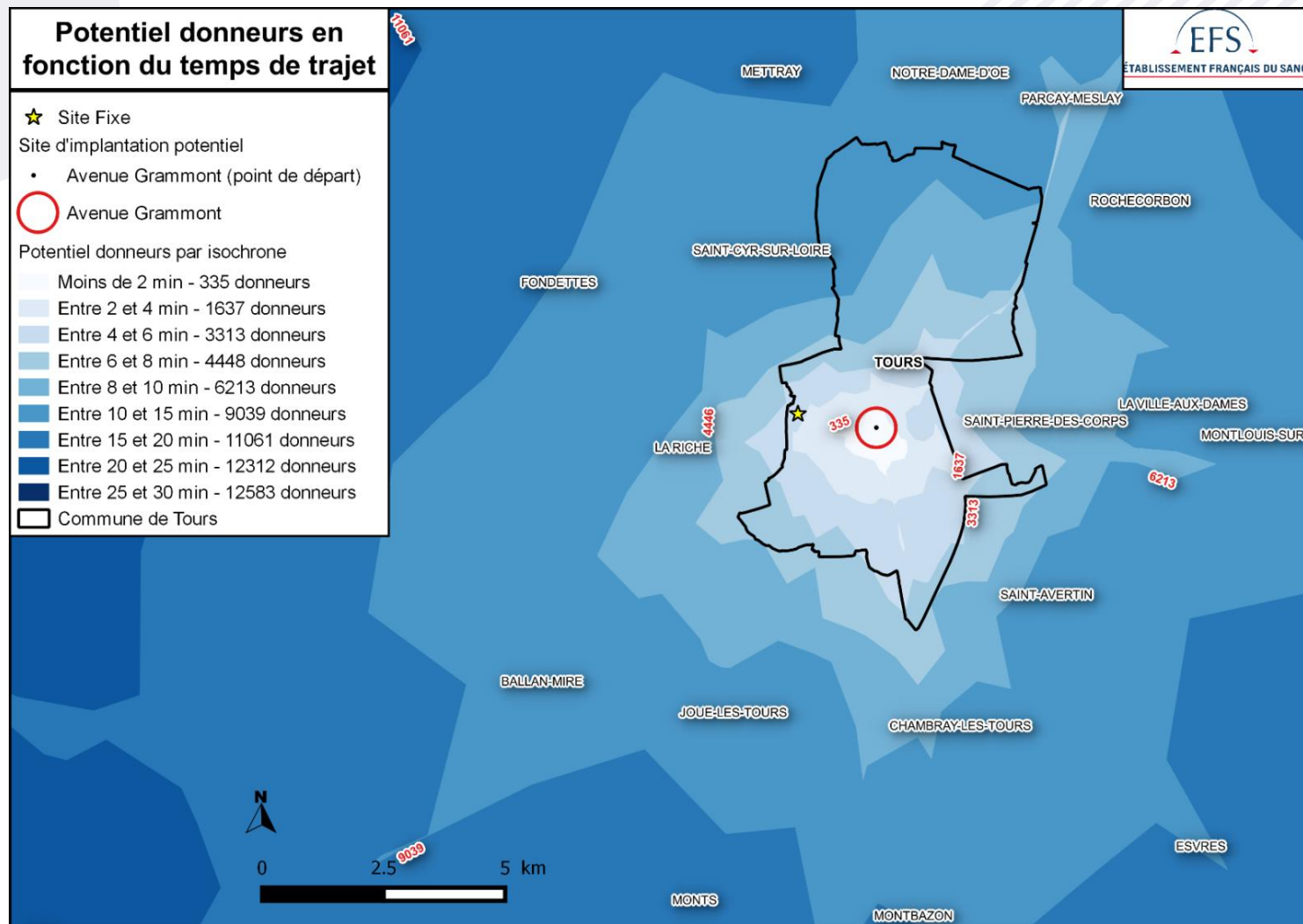
- Collection offer
- Donor population/marketing
- Local management

# LEVERS OF EFFICIENCY

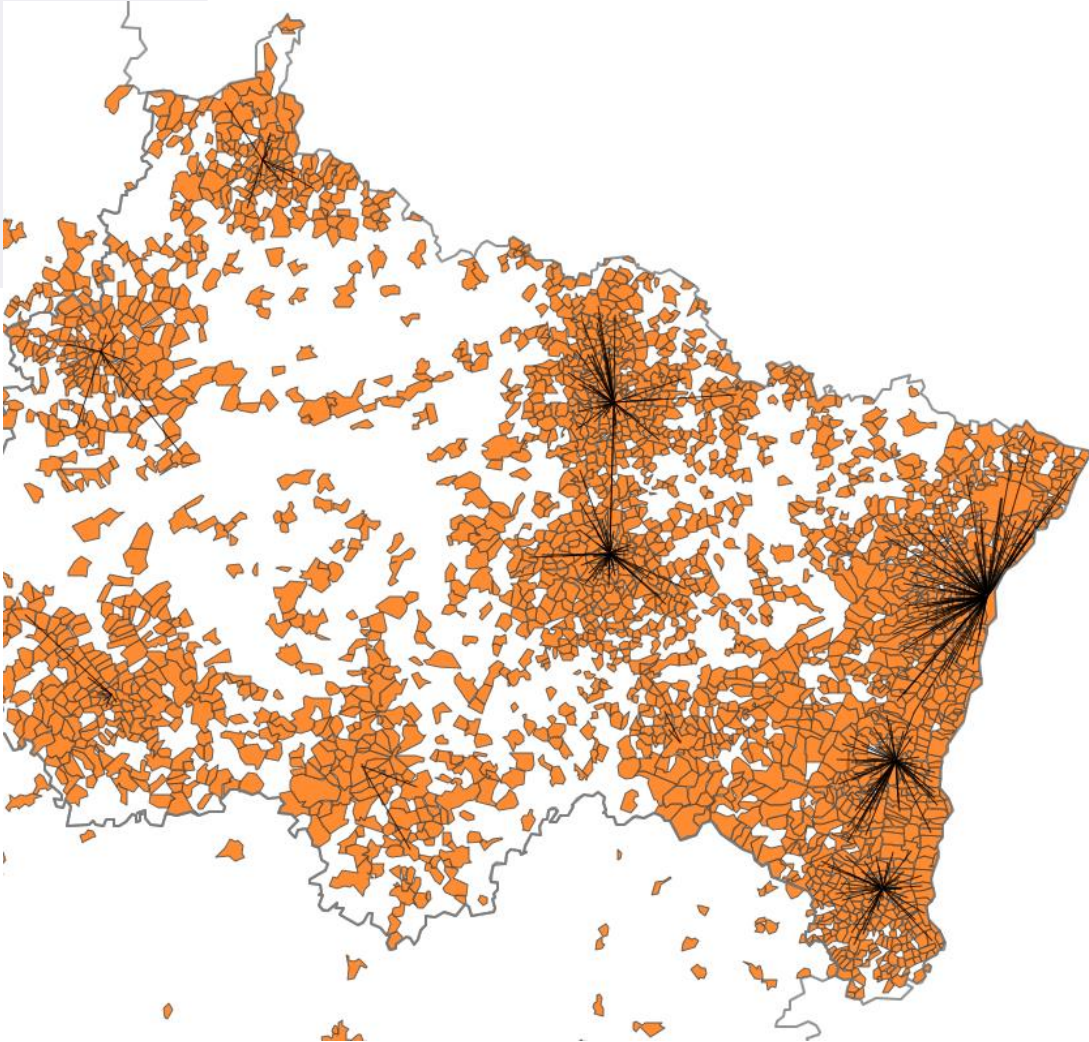
- **collection offer :**
  - opening time** : 8 to 12 hours a day, Mo to Fr, and Sa morning
  - number of **beds** : multiples of 4
  - staff** sizing : 1 nurse/ 4 beds
  - Appointment **schedule** : 75 minutes
- **donor potential and marketing :**
  - population** size (18-65 y.o.) in the area,
  - conversion** of WB donors, **loyalty** programs, call centers
  - donor **experience** : wellness, venues, accessibility...
- **local management** : activities monitoring, occupancy rates follow-up

# CONTRIBUTION OF GEOBUSINESS MARKETING

## Isochronous mapping of donor potential around a plasmapheresis site



# CONTRIBUTION OF GEOBUSINESS MARKETING



High density of plasma donor  
(orange)

Main flows of donors to the  
plasmapheresis sites

Tool for decision making for  
marketing targets

# MODELLING THE DONOR POTENTIAL

The theoretical **donor potential** can be estimated as follow :

- **(P) population** of the urban area, may be extended by an « outreach factor»
- **(GR) generosity** rate (ex.: 5%)
- **(CR) conversion** rate PL/WB (up to 30%)
- **(LR) Loyalty** rate (ex. 3.5)

**Expected annual number of donations** = **P** \* **GR** \* **CR** \* **LR**

# PLASMA COLLECTION PERFORMANCE

**Recovered plasma** : mean volume **290 mL**

- **WB volumes** : mean **468 mL**

3 targets according to BMI of donors : 420, 450 and 480 mL.

→ follow-up of application of the rules

- **Extraction rates** after processing **60 to 64%**
  - **Top and Bottom** bags : **8 to 10 mL** lower plasma volume  
but reduced need for apheresis platelets → more plasmapheresis
  - **Sex-ratio** : males **15 to 17 mL** lower plasma volume

# PLASMA COLLECTION PERFORMANCE

## Sourced plasma

- Plasmapheresis collected **volumes** according to tables of weight, height and sex of donors, for each type of separator.

Mean **760mL**

→ follow-up of application of the rules

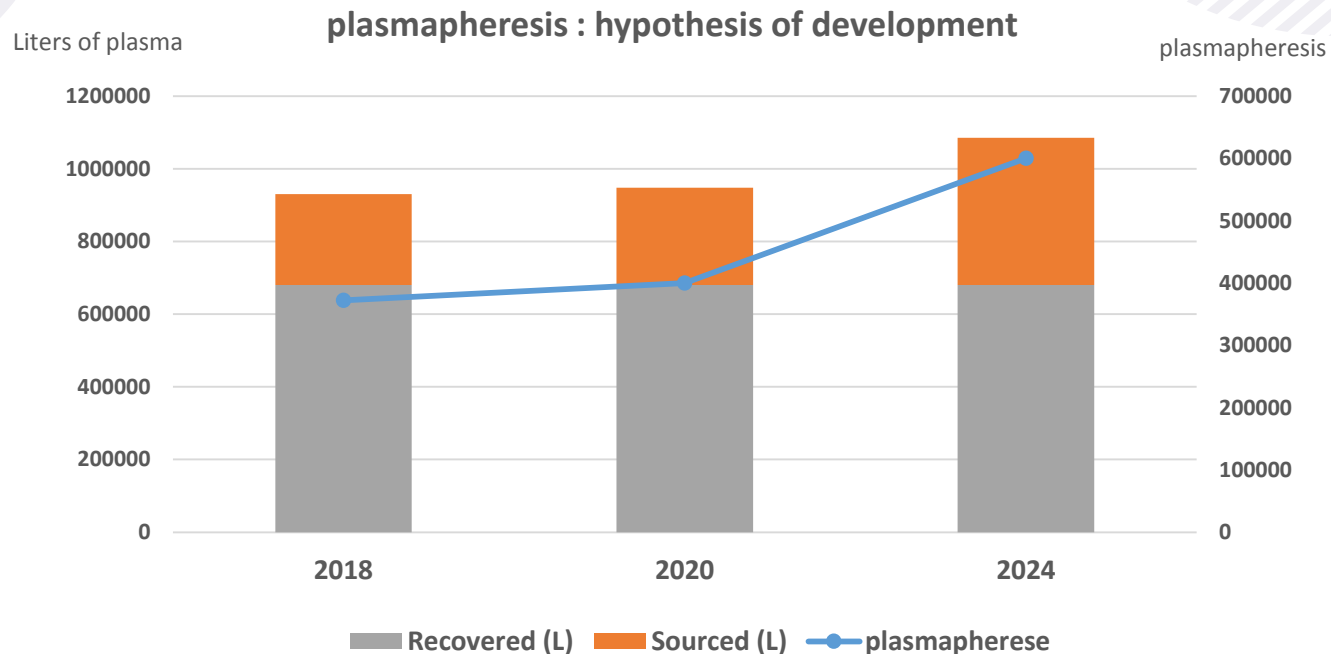
- Influence of **sex ratio**

**Females** : **lower** volumes but **shorter** procedures

# PLASMA SUPPLY CAPACITY

Production **capacity** up to 2024 with no major investment

*Demand of LFB/ Ministry's strategy to be confirmed*



**RBC** demand is slightly **decreasing** in France (-1 to -2% per year)

Increasing demand for PFF will be supported by **plasmapheresis**

## PERSPECTIVES : « PLASMA PLAN »

- **Increasing capacity / reducing cost of plasmapheresis**
  - standard method for **cost** and **productivity** evaluation per site
  - **best practices** to be implemented in every sites
  - Adjust **sizing** of facilities
  - **staff** adjustment (nurse at pre-donation interview)
  - **Volumes** optimisation
- **Geo-business intelligence** in routine
  - decision support for **new sites** locations
  - **donor capacity** calculation
  - definition of marketing **targets**

## CONCLUSIONS

- A national blood service has the capacity to **increase significantly** plasma supply from **VNRD**
- **Increasing plasma** supply in a **voluntary unpaid** donation system needs to act on **multiple levers** : collection **offer**, target **population**, local **management**, technical **performance** optimisation
- Collecting both **recovered** and **sourced** plasma is a characteristic of **public systems**, and a **powerfull lever**
- This allows to **share the costs** between the 2 kinds of collection sectors
- **Cost control** is an **absolute necessity** for the **sustainability** of the model

# Thank you for your attention !



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