

# Case study - Multivials automated reconstitution and iv injection

## Project

**Extemporaneous preparation and iv delivery** device for homecare

Patient-friendly device enabling **quick and easy automatic** reconstitution and iv line fill-in

Homecare treatment for chronic hematologic disease

## Challenges

- ✓ A **6 kits** (1 lyo + 1 diluent) with multivials handling
- ✓ Very sensitive protein to shearing and aggregates
- ✓ **Patient specific dosage** – Adjusted to body weight / Number of vials needed variable
- ✓ **42** manual steps to automatize to prepare the final product
- ✓ To be compatible and connected to **IV** injection
- Homecare : **easy to use** by a naïve patient



## Achievements



### User friendly

A fully automated reconstitution and IV injection device of 2 kits of lyo



### Functional prototype within 6 months

Team performance related to productivity



### Dose adjustment

Soft enabling dose adjustment



### Dead volume reduction

From 90µL to 45µL/vial  
Divided by 2 thanks to vial adaptor custom design

## Benefits

- ✓ Consolidation of US partnership
- ✓ **Easy-to-Use device** with reduction of steps by 3