

# PHARMA & BIOTECH PROCESS

GLOBAL TURNKEY SOLUTIONS

**Health & Care**

Plasma Fractionation • Insulin • mAbs • Vaccines and Injectables • IV Solutions • Syrup • Gels and creams





OUR  
MISSION:  
TO DESIGN  
AND BUILD  
TURNKEY  
PROCESS  
SOLUTIONS

**Boccard, global solutions**

An Industrial integrator and a major player in the design and construction of equipment and process lines for over a hundred years, Boccard has become a preferred partner for world leaders in the pharmaceutical and biotech industries. From modular process skids to full scale plants, our team integrates turnkey solutions utilizing our worldwide network.

We fully understand the needs of our industrial partners, as well as the issues related to consumer and patient health and safety. Our Health & Care Excellence Center will design solutions for your projects with strict adherence to safety and hygiene. Our multidisciplinary teams ensure that the manufacturing processes are of the highest quality and in compliance with current Good Manufacturing Practices, as well as the User Requirement Specifications of our clients (cGMP and URS). We guarantee performance, productivity, and optimum maintenance requirements of all installations.

Product viability, guaranteed time-to-market, efficiency, and flexibility... Our principles ensure the best possible service and project experience.

**Design to Build & Maintain**  
for shared satisfaction

Plasma  
Fractionation

Monoclonal  
Antibodies

Insulin

Vaccines and  
Injectables

Creams,  
Gels and  
Drinkables



# DESIGN BUILD & MAINTAIN

Boccard  
**+3500**  
Employees

Health & Care  
since  
**1996**

Health & Care  
**170**  
Employees

**35**  
Countries

**60**  
Business  
Units



## Global, high-performance solutions on all continents

For industrial pharmaceutical applications, we offer a partnership that provides the full expertise of process solutions. Boccard Health & Care is able to manage the full scale of your projects.

### We Design, Manufacture, Qualify, Install and Maintain your facilities

Successful project completion requires expert teams in process engineering, including engineers, automation experts, qualification specialists, technicians, boilermakers and welders to fully control the execution of the process and quality of the installation.

Boccard is your partner for all your projects :

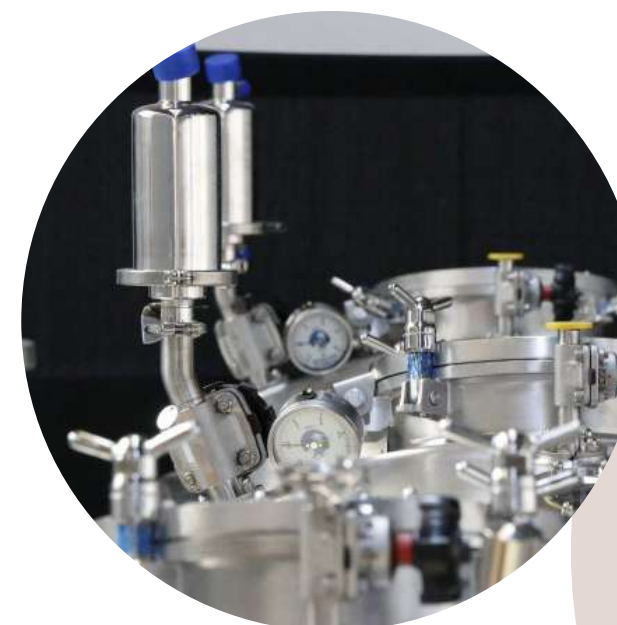
- ✓ **PROCESS TANKS & VESSELS**
- ✓ **MODULAR SKIDS**
- ✓ **UPGRADE TO GMP STANDARDS**
- ✓ **REVAMPINGS AND EXTENSION OF INSTALLATIONS**
- ✓ **FACTORY GREENFIELDS**

### Project Management

As an industrial integrator, we help you manage your projects more efficiently. As a partner, and thanks to our expertise in process intelligence and in project management, we deliver efficient turnkey process solutions. A single project manager drives your project from the conceptual phase through installation and commissioning. Technical expertise allows for the establishment of a realistic plan of action in accordance with your budget constraints and schedule.

« Safety first, On time, On spec, On budget »

Through the rigorous application of internationally-established best practices policies, Boccard guarantees responsive project management, in line with our PQP charter and manual : « Prevention, Quality, Productivity ».



### International scope

Thanks to our design offices and our 60 business units located throughout the world, we can help our clients wherever they are. Projects are designed with the support of the Excellence Center, then built and qualified by our teams who have expertise in most international codes and reference guides: ASME/BPE, DESP, GMP, FDA.





# ONE COMPANY ALL SKILLS

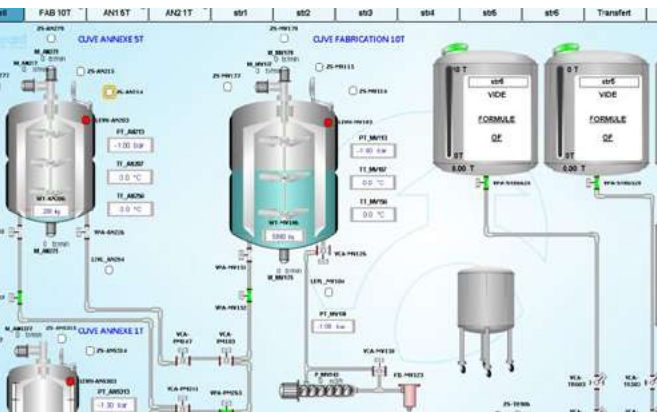
PROCESS  
ENGINEERING

AUTOMATION/  
ELECTRICITY

VESSEL  
FABRICATION/  
MIXING

WORKSHOP  
CONSTRUCTION

QUALIFICATION



## Process Control

Simply and efficiently piloting your installations is essential: our automation engineers design customized and open automated control systems that communicate with your IT systems. They use the most reliable solutions on the market and work closely with your team to design ergonomic systems fully compliant with CFR21 (part 11), GAMP V and ANSI/ISA-88.



## Process Vessels

Our integrated stainless-steel workshops around the world ensure manufacturing excellence for your tanks, reactors and agitation systems. Welding experts in stainless-steel pressure vessels produce tailor-made equipment, from the 50 L pilot scale vessel to the industrial scale of 30m<sup>3</sup>, and up to 15,000m<sup>3</sup> for the storage tanks.



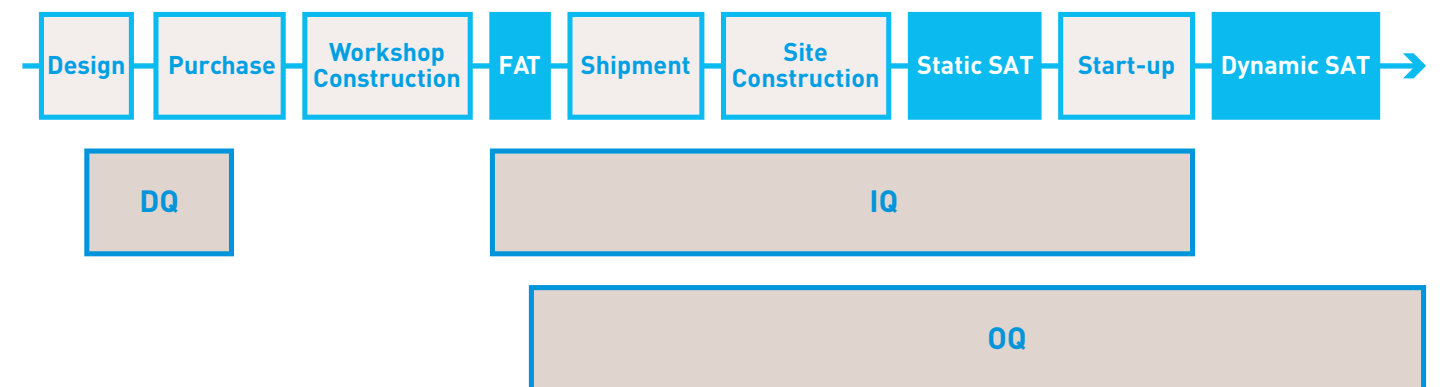
## Agitation

Boccard meets your needs in mixing and stirring with a wide range of devices developed in-house for: mixing, dispersion, emulsion, incorporation, scraping, homogenization and fermentation. Your agitation systems are selected and designed by our experts who understand your processes. Thanks to our software CFD ("Computational Fluid Dynamics") we simulate in production scale volume the agitation of a product in a tank. Our agitations are then built by us in our workshops.

## Integrated Qualification

Whatever the scope of your installation project (production of complete workshops, tanks, skids, thawing vessels...), a qualification team will be assigned to your project. Capitalizing on our experience, respecting current GMP and relying on ASTM E2500 and ISPE Vol. 5 reference guides, the team qualifies your equipment.

Experts in the field, the team will draw up the test protocols (FAT and SAT tests, DQ, IQ and OQ qualifications), manage any non-compliance and write up test reports. This ensures schedules and process reliability are optimized.





# PHARMA EXPERTISE

Our "Products & Services" are specially designed:

- to reduce your OPEX (on existing or new facilities)
- to improve your system productivity & availability
- to minimize your environmental footprint.



# BIO PHARMA EXPERTISE

With years of experience in biopharma, Boccard is an expert in upstream, downstream, media preparation, buffer preparation and decontamination processes. We share with you the feedback collected from our best practices and past experiences to offer efficient production lines, skids, bioreactors and biofermentors at the cutting edge of technology.



## Syrups, suspensions and creams

Boccard Health & Care specializes in global turnkey process solutions and provides specific equipment for the production of syrups and drinkable liquid forms, gels and creams: ointments, suppositories and eye drops. Given the diversity of pharmaceutical facilities we have conceived and built over the last 20 years, we bring together the skills that guarantee you the best performance at each key stage of your process.



## Biotechnologies

Boccard Health & Care offers solutions for all biotechnology applications around the world, such as: insulin production, vaccines, monoclonal antibodies and peptides. We control every phase of your manufacturing process, in particular the different phases of the fermentation process, from the pretreatment of biomass reception to the key fermentation stage, through trituration, hydrolysis, flash expansion, and heat treatment.

## Injectables and parenteral products

Boccard offers global and fully automated customized process solutions and specific equipment for the production of injectable and parenteral products: independent pilot equipment and modular skids, bioreactors and biofermenters, process and mixing tanks, dosing, mixing, filtration, filling as well as cleaning and sterilization solutions.



## Plasma Fractionation

We design and build blood plasma fractionation units all over the world, following the Cohn method, as well as chromatographic methods, to produce the main blood proteins: Albumin, Immunoglobulin (IgG, IVIG), Factor VIII, Factor IX, Fibrinogen, PPSB ...

We control the different phases of your production process: thawing, precipitation, centrifugation, filtration, ultrafiltration, nanofiltration, viral inactivation, pasteurization, chromatography and the final purification steps with cleaning and sterilization in place.





# ONE COMPANY ALL PROCESSES



BIOFERMENTATION / CELL CULTURE  
MEDIA / SOLUTIONS PREPARATION  
FORMULATION  
SEPARATION / CLARIFICATION  
PURIFICATION / FILTRATION /  
CHROMATOGRAPHY  
INACTIVATION  
CLEANING AND STERILIZATION IN PLACE  
DECONTAMINATION

# INNOVATION & DIGITAL

Boccard develops innovative tools for optimizing the production and the sustainability of the installations, which offer numerous advantages: improvement of the cleaning parameters, reduction of the material waste and the energy consumption, as well as the guarantee of a clear follow-up of the operation of your facilities.

## BOCPREDICT

Predictive  
maintenance solution

A solution which allows to  
predict and prevent failures with  
reactive data

## TRACKADVANCE

Management and  
traceability software

Sharp control of plant operations,  
for more durable installations.  
Detailed real time data manage-  
ment(yield, occupancy rate).

## BOCLOCK

Safe and secure  
connection  
integrating RFID

A simple, hygienic and secure  
connection.

## LASER SCAN

Scans of an existing  
installation

3D laser survey of an environ-  
ment or an installation, which  
can be imported into a 3D  
model before making modifica-  
tions.



## OUR VR AND AR SERVICES

**Virtual Reality (VR)** allows you to virtually visit  
your installation, verify its functionality and identify  
beforehand constraints related to maintenance and  
ergonomics. 100% of our models are reviewed  
in collaborative VR. **Augmented Reality (AR)**  
allows you to project your models in an existing  
environment and to check the compatibility of your  
installation in its environment. The AR is an added  
value during FAT / SAT tests to identify the potential  
differences between model and final installation.





# BOCCARD HEALTH & CARE



## CONTACT US

### **Boccard Life Solutions**

Health & Care

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[www.boccard.com](http://www.boccard.com)

We design, manufacture, assemble and install turnkey processing solutions for our customers worldwide who transform raw materials into products for people's direct consumption.

That is why our centers of excellence (Food&Beverage, Health&Care and Brewery) are committed to achieving the highest levels of quality and safety in over 100 countries, while ensuring optimal productivity to serve demanding markets.

Our experts in Process Intelligence and Project Management work on a partnership basis with companies of all sizes, including major global players, to build new facilities or upgrade existing systems to meet and surpass key performance indicators: product excellence and consistency, efficient time-to-market, responsiveness and flexibility.

In everything we do, our goal is to provide you with the best process experience, now and in the future.

