

# OUR SANOFI MANUFACTURING SYSTEM

## I. INTRODUCTION

As a worldwide and diversified healthcare leader, we need to continuously adapt our manufacturing capacities and capabilities so we can deliver our wide portfolio of medicines and next generation treatments to healthcare professionals and the patients who need them.

Getting prepared for a successful future demands cutting-edge manufacturing, robust organization and processes, new skills and new ways of thinking. Continuous problem-solving skills, data driven mindset and agility are key capabilities needed to deliver our Play To Win strategy.

To meet these challenges, Sanofi Industrial Affairs build a unique manufacturing system leveraging Lean and digital, called the Sanofi Manufacturing System, reflecting the company's mindset, culture, and industrial heritage.

Introduced 10 years ago already, the Sanofi Manufacturing System evolved constantly and is moving towards Sanofi Smart Factory. Supporting our search for excellence, SMS integrates an ambitious upskilling program to embark all our employees in this digital transformation.



According to Philippe Luscan, Executive Vice President of Global Industrial Affairs:



*"The Sanofi Manufacturing System ensures that we deliver the best solutions to meet patient needs and by doing so, contribute to our company's growth and success."*

## II. FUNDAMENTALS AND MAIN PRINCIPLES



The Sanofi Manufacturing System is based on three pillars: our industrial culture, our ways of working, and our operating system, underpinned by performance – all connected to our everyday business and contributing to the delivery of the best-in-class operational performance that our patients expect and deserve.

## Setting the Scene: Developing our People

- The ecosystem created by the **Sanofi Manufacturing System** focuses on supporting people through training, coaching and professional development to continuously improve industrial processes, eliminate waste (muda) and foster a culture of empowerment and sustainable problem-solving driven by Data.
- Strong personal involvement and greater autonomy through teamwork support innovation and best practice sharing across our manufacturing network
- Manufacturing excellence is based on a framework of standardized methodologies, tools and best practices bridging to Factory 4.0.
- Standardization allows us to speak the same language across the Sanofi network and it ensures that our ways of working are simpler, more robust and more effective.
- Consequently, our industrial network is continuously innovating and transforming to ensure agility, higher productivity as well as sustainable manufacturing thanks to digitalization.

In order to accelerate the deployment of Sanofi Manufacturing System standards, we have also developed our own global transformation program for Industrial Affairs, called Fit4Future.

The comprehensive transformation approach is deployed in a given plant of the Sanofi network over an 18-month timeframe and it is designed to boost site performance to achieve best-in-class operational excellence and competitiveness. Multiple rapid improvement initiatives, called 'boosters,' roll out in waves to transform processes quickly, revisit organizational models and thereby drive our collective performance. Fit4Future ensures the consistent application of the Sanofi Manufacturing System methodologies and standards, while encouraging a sustainable shift in mindset. Since the majority of the network already went through the comprehensive transformation, but our performance ambitions remain high, the methodology is being adapted, to be focused on narrower topics (requiring a more specific expertise), leveraging the power of digital tools, to be able to help the Sanofi sites to go from good to great.



As much as delivering operational excellence, Fit4Future has proved to be a great opportunity to detect new talent across Sanofi teams. It has allowed new Sanofi Manufacturing System standards to emerge (value stream board, daily capacity management and standard agendas) and anchored a sustainable culture of coaching, problem-solving and team empowerment. There is now more fluid information-sharing across plant teams and all levels of management.

In each participating site, Sanofi Change Teams lead the transformation. To date, more than 1,000 Change Leaders have already been trained on the Fit4Future methodology and behaviors. Change Leaders support site teams to apply new ways of working and Sanofi Manufacturing System core standards, with an emphasis on shifting mindsets to improve performance. The Change Leader role provides a great professional development opportunity with exposure to innovative ways of working and different technologies, as part of transversal international teams.

## Ways of Working

The Sanofi Manufacturing System leverages a variety of techniques to achieve daily industrial manufacturing excellence including Gemba problem solving (GPS), Performance Monitoring using + QDCI meetings (focusing on safety, quality, delivery, cost and involvement), governance and visual management using Strategic Cascading and Obeya, and value stream mapping.

Our standards have a strong Lean foundation leveraging digital products to facilitate ideation.

Beyond standards we set up efficient operating models. Autonomous Production Units (APUs) have been created to bring people together from different functions with the aim of achieving higher performance and efficiency. They are organized around a common customer focus (product family or process), common operational goals, and sharing a common workspace (obeya or iobeya room). 20 Sites are working today in APU mode.

Focused on solving a clearly defined issue (with a wide scope of applications: supply chain, quality, finance, Environment, Health and Safety [EHS]), Sanofi Manufacturing System workshops have represented a key vehicle for our continuous improvement model and involve a strong multi-disciplinary teams. They typically include a preparation phase, 3 to 5 days of intensive work, regular follow-up meetings, a final workshop and the communication of achievements and successes. Workshops can be organized at site level or pull together teams from several sites to cross-fertilize expertise and experience.

## Culture

Performance is the heart of our model, aiming to stretch beyond the level we operate every day. As our ambition is to be best in class, we develop our employees to prepare themselves and their sites to the deep mindset shift towards Factory of the Future.

One of our key drivers is the community of practices of more than 2000 employees. Their goal is to foster a full understanding of the Sanofi Manufacturing System mindset and objectives, allowing each site, division or function to design their own Sanofi Manufacturing System roadmap, a 3-year performance plan leveraging targeted Sanofi Manufacturing System solutions.

## New Upskilling Program aiming to prepare the jobs of the Future.

Employees' development is part of our DNA.

The Sanofi Manufacturing System Academy organizes workshops and training sessions, rolling out Sanofi Manufacturing System principles, attitudes, tools and working methods across Industrial Affairs. The Academy curriculum also encourages collective intelligence, a mindset for continuous improvement and enables people to grow by sharing experiences and ideas.

Since 2014, more than 10 000 employees took benefit from the SMS upskilling offer through various adapted formats (face to face, e-learning, webinars, ...). Always enriched to develop and reinforce new capabilities, the SMS Academy developed new curriculum on manufacturing excellence, data analytics, data and core processes management, data driven and problem-solving capabilities flow improvement, IoT and Automation.

Our training model is based on the principle of internal cascading with more than 250 volunteer trainees being coached and supported to become future trainers. This self-sustaining model is one of the key strengths of the Sanofi Manufacturing System Academy, helping people to master the content of the training programs while developing their soft skills as trainers. It is designed on the 70/20/10 model

- 70% on the job learning, via workshops, boosters, problem solving sessions, projects.
- 20% of coaching and co-development via our SMS & Digital community of practices, and our on-line collaborative platform
- 10% of formal training, within our Industrial Affairs Academy

## Sanofi Manufacturing System Certification Program

An ambitious skills certification program with four levels was launched in 2017 to acknowledge every employee's command of the Sanofi Manufacturing System. The formalized scheme involves structured learning and on the job implementation. Each level has clear and objective criteria that have to be met for an individual to be upgraded from one level to the next: Practitioner, Intermediate, Advanced and Champion. By the end of 2020, ~2,000 Sanofi Employees had already received a certification acknowledging their Sanofi Manufacturing System skills.

## Operating System

For several years, Sanofi has been digitally transforming its entire industrial network through the Factory 4.0 program. This digitalization is now the primary lever for operational excellence. The interoperability acquired in this way and the use of artificial intelligence make it now possible to transform data into insights, break down silos, and adopt a predictive approach to essential processes. This transformation is only possible thanks to the continuous support of Sanofi employees in acquiring the new skills essential to what can now be called the Sanofi Smart Factory.

A first wave of initiatives called Factory 4.0, was deployed through pilots' sites called "lighthouses", bringing breakthrough performance improvement to key operational KPIs such as Plant Cycle Time, Asset Performance (OEE), Deviations per Batch and industrialization effectiveness.

The Factory 4.0 solutions are already proven in multiple sites with operational impact and we have successfully demonstrated our ability to accelerate both roll-out and performance improvement. A key driver is bringing all relevant data together to help people make the right decisions at the right time. A key illustration of this is the Factory Control Tower (FaCT) which enables plants to better manage production flow and reduce plant cycle time. FaCT is in final stages of roll-out across the value chain of our priority products such as Dupixent and Insulins.

A second wave is starting now, with new initiatives called Quality 4.0 & Engineering 4.0. They will open new opportunities, end to end across both the supply chain and new product introduction lifecycles.

## Measuring our Performance

Monitoring performance is essential for success.

Performance starts with Gemba: on a daily basis, more than 5,000 teams gather in front of the +QDCI boards to discuss and exchange opportunities for improvements and problem solving – from shop floor level up to the Plant Leadership Teams.

The results are monitored at different level of the organization, consolidated transversally via Advanced Analytics and available on Mobile (SMS Digital CockPit)

Instrumental in supporting budget processes, several tools (3P, ACT4 etc) are used for evaluating relevant activities in the Sanofi Manufacturing System roadmaps and prioritizing projects based on a value-driven approach.

Sanofi Manufacturing Factsheet – May 2021

