The PSA Group – Back in the Race and Accelerating

"The PSA Group is a major European automotive company (3 brands: Peugeot, Citroën, DS) with around €50 billion in revenue per year. It sells vehicles in 160 countries and employs around 190 000 employees worldwide. 3 years ago, in order to improve its efficiency in product development (decrease the time to market, increase the profitability, and install a real international culture ...), the PSA Group decided to optimize its R&D processes. The DRIVE project was born.

First, the company has described his internal processes: the result of this work is the Engineering Handbook (EHB)

The second step was to converge on common optimized processes based on this EHB. For this goal, it has been decided to install a Product Lifecycle Management System. After a RFQ process, Dassault Systemes has been chosen as partner.
It has been decided:
• To use the ENOVIA V6 solution
• To change from the V5 CATIA version to the new version, the V6R2013x

The strategy chosen to change from our "old" systems (current PDM system based on SAP + CATIA V5 and VPMV4 for digital mock-up) to the new one is to work on pilot vehicles and engine projects. 2 powertrain projects have been chosen: a gear box project and an engine one.
For changing on the CAD/CAM and digital mock-up world, the PSA Group had already skilled people and that was a new step, a change but not a revolution. ***In opposite, for the project management processes, that was completely new. Il order to be able to apply quickly on the 2 pilot projects, we have built from scratch a skilled staff with our MI-GSO partner.***
After 2 years of hard work, we have a complete portfolio of tools including documents, processes, workbooks, indicators and dashboards in order to help users to use the PLM application on their project.

Today, we are in front of new challenges:
- *to generalize the PLM use on all new projects*
- *to widen the use perimeter of PLM : the target now is to engage new departments of the company, including functional and testing teams, as well as manufacturing teams.*

We are sure that our partner, MI-GSO, will be able to provide skilled team members in order to succeed in this new challenge."

- Bruno Goujon, PLM Project Pilot at Powertrain Division

The Client

Few mass-produced products are as complex as a car. Designing and manufacturing a new car takes the effort of hundreds of people, dozens of processes and a multitude of data. Getting all participants to use the same technology platform to maintain the information about their work can go a long way in improving collaboration, productivity and efficiency. It's also an ambitious undertaking.

Yet that's exactly what the PSA Group aspires to do. For the last two years this European car company has been putting in place a new Product Lifecycle Management (PLM) application. When it's done, the new IT system will drive change throughout the organization to improve processes from design through manufacturing.

The Challenge

The organization faced the same challenges that beset other global manufacturers: Information was compartmentalized; everybody used their own preferred tools; and the software portfolio was "bloated," full of applications that were duplicative or under-used. As a result, information resided in siloes, making decision-making overly time-consuming.

However, in the automotive segment, those problems are intensified because of the sheer pace and growing complexity of building innovative cars, which are packed with all kinds of new technology.

By adopting PLM the company aims to embrace a single approach and tool for managing the work of designing, developing and validating all components used in its manufacture of new vehicles..

In 2011, the PSA Group initiated the "*Drive*" program, intended to address PLM across global operations. The primary goals of *Drive*: *to accelerate performance gains in its extensive research and development efforts and improve collaboration with its suppliers and alliances.* The basic idea of PLM is to have everybody work in the same software program to enable the data they generate (specifications, designs, feedback, etc.) to be accessible and shareable by users. The PLM program would maintain information integrity and become the "single source of truth."

The technology solution the group chose as the *Drive* platform was Dassault Systemes Enovia. Enovia provides functionality in several areas: *Product planning and program management; Product development; Quality and compliance; Intellectual property protection; Supplier management; Customer requirement management.*

The software allows everyone on the project to use specific functionality to do their work, based on their access rights and responsibilities. Then that data can be consolidated for reporting purposes.

The MI-GSO Solution

Preparing for Change

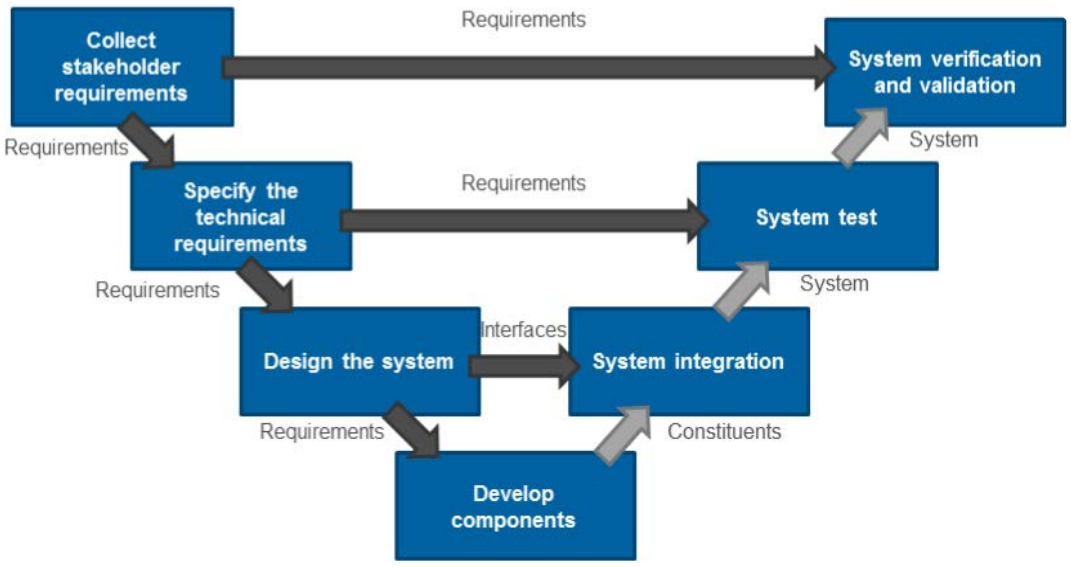
The PSA Group was already using other Dassault programs, such as CATiA, for its product design work, which would integrate with Enovia. But the company also recognized that *Drive* would require big changes in the processes used across the board in all of the departments involved in product development. For that reason in 2014 it brought in MI-GSO to help with change management for its pilot projects, where it would test out the new software before rolling it out more fully. Eventually, the role of MI-GSO grew to encompass other phases of the project: operational deployment, validation and specification.

Drive would employ two important elements. The first was an engineering handbook that would standardize all design processes and provide a global and structured vision for designing and managing activities and would cover all product lifecycle stages. In other words, the handbook would contain all of the processes used to do the work.

The second element was the use of the "V-cycle." Whereas the PLM is the tool to be used, the V-cycle is an approach that defines how new products would be developed, so-named because of the shape the activities followed. The V-cycle starts with collection of stakeholder requirements, moves through specification of technical requirements and so on, all the way through system verification and validation.

Getting employees to adopt these new elements was the initial focus for the MI-GSO team. It's a human tendency to resist change, but the PSA Group also wanted to make sure employees really understood why the change was important, how it would affect them, and to what extent they needed to get involved in the pilot efforts.

The V-cycle development



Achieving Continuous Improvement

In order to improve its practices within the PSA Group, the MI-GSO team follows two rules:

- *First, the team works in a dedicated room where it can maintain its whiteboard thinking, flowcharts and other activities without having to recreate that information continually in new locations.*

- *Second, the team practices a short, effective "ritual": It meets in that room once a week to examine the work done, the work coming, and potential areas for improvement.*

"Reflecting on our work ensures that we are continually improving our own processes alongside our clients' efforts to do the same."

MI-GSO set up a five-stage strategy to encourage people to shift from skepticism to enthusiasm

Stage 1: **Building a change plan**, including getting management support.

Stage 2**: Anticipating opposition.** The MI-GSO team identified potential fans and foes, levers and restraints, and the scope and scale of the change.

Stage 3: **Giving meaning.** Stakeholders needed to be on board to understand why the change was crucial and what their individual roles would be. A participatory approach and as much communication as possible has been set up.

Stage 4: **Helping bring people into the new technology.** MI-GSO organized training to make sure people had access to all of the support mechanisms that would help them get up to speed with Enovia. The team also promoted collaboration among users from different company areas to help them get a feel for what that was like and how it could help them in their own jobs.

Stage 5: **Promoting autonomy:** MI-GSO provided documentation and other forms of support to users and continued organizing training workshops. They also acted as liaisons between users and the development team in charge of preparing Enovia for use by PSA, to let them know about bugs, functionality that didn't work the way it needed to and anything else that would help users adopt the new software.

The effort has involved setting up various systems to manage input and output, for example, to centralize user requests and allow them to monitor status of their fix or change requests and track project status.

Microsoft SharePoint has proven useful for communication and reporting. That in itself has been a training vehicle, since it shows people how self-service can work and lets them experience true collaboration

The Outcome

Managing the Project

Operational deployment consists of two broad activities:

1) Verification and validation of the PLM tools to make sure they work as expected; and
2) Planning and monitoring of the deployment of the pilot projects specifically within the powertrain division.

As the MI-GSO team began monitoring the deployment project, they found that the schedule wasn't being adhered to for delivery of new functionality within the PLM. Or it arrived missing aspects that were part of the specifications. As project managers, the team knew there had to be a better way.

The PSA Group has been a long-time user of Planisware project portfolio management (PPM) software, a high-end application for managing schedules and resources for major product development. So MI-GSO began using that to stay on top of variances in the schedule for the pilot project. They also built a "quality" grid and performance dashboard that enables us to oversee the quality of the PLM deliverables as they're developed.

The use of those tools provides the group's decision-makers with visibility into project status and gives them the information they need for making go/no-go decisions. They also give executives an overall feel for the progress and level of risk on a given design project. For example, one dashboard component communicates the "mass" or weight of a given major component. As additional "virtual" parts are added to the design of the powertrain, that weight goes up, a change reflected in the dashboard. While a piston indicator may be red today, several months from now, as the gearbox is more fully developed, it will be green; they can understand that by doing a drilldown on the data through the dashboard.

Driving Company Value

The PLM project isn't over, and the change will continue for several years. But even now this multi-million Euro investment is already showing value to the company. With every user brought into the PLM fold, collaboration is steadily improving; decision-making is becoming stronger; and R&D is truly accelerating the gains it can make in its work related to car design. On the pilot projects, the quality, cost and delay (QCD) impacts of design changes are always automatically updated with the latest information. For example, when there is a modification in a technical solution, the weight of the new component is calculated in the PLM and the "Weight Pilot" can access the information and share it with customers without having to update a lot of different databases.

MI-GSO consultants have brought expertise in project management, knowledge of the automotive industry, talent in managing issues more effectively, and an ability to listen to stakeholders and come up with approaches for addressing their concerns while still keeping the project moving forward.

About the PSA Group

Key Facts

- 3 brands: ***Peugeot, Citroën and DS***
- 2nd European vehicle manufacturer
- 2015 sales: + 2.9 million vehicles worldwide
- 2015 Revenue: €53.6 billion
- Employees: + 184,000 worldwide
- www.psa-peugeot-citroen.com

About MI-GSO

What MI-GSO brings to the Project

With experience in rail, aerospace, space, defense, automotive, telecom, financial services and energy, MI-GSO is well positioned to help companies deliver on their strategies. Our consultants work alongside your project and planning managers to create effective systems and processes and capture lessons learned for delivering benefits now and in the future.

MI-GSO, the leading European project management consultancy, and Pcubed, a global management consulting firm focused on delivering business transformation, program and portfolio management, combine their strengths to form a group of over 1,000 expert Consultants, operating in Europe, North America, Asia and Australia, with a wide industry expertise addressing Aerospace, Automotive, Rail, Defense, Energy (Utilities and Oil & Gas), Financial Services, Telecom, Technology & Media, and Public Sector.