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EXPERT INSIGHT

The PLM at the tempo of industry new horizons

Manufacturers are urged to redesign their processes if they want to accelerate the development cycle of their products. For that, they must be able to quickly integrate these new processes into a PLM. However, executing a PLM project using a traditional approach can take far too long. A new approach is needed, combining agile methods, DevOps and industrialization to drastically reduce the deadlines of implementing PLM and allow materialization of benefits as early as possible.

The PLM at the heart of industry competitiveness

Manufacturers are faced with demanding time-to-market imperatives, requiring faster design phases, as well as increased and sustainable production that must reach its full speed from the start.

Companies have no other choice, but to completely review their product cycle processes. No more sequential approaches where marketing studies, prototyping, engineering, pre-series, and miniseries follow each other... up to production in small or large series. From now on, tasks need to be carried out simultaneously with more interaction and effective collaboration between functions that were used to work in silos. As such, the appropriate PLM tools are required, whose market has experienced a significant growth over the past three years.

However, implementing these tools is time-consuming and costly. A conventional PLM project can involve dozens of people over several quarters, which is incompatible with industry new time scales. To meet this business urgency and implement PLM solutions in extremely short time frames, it is necessary to change the paradigm of PLM projects and rely on a combination of three accelerators: **Agile**, **DevOps**, and **Industrialization**.

“Avoid the complexity of implementing PLM solutions to maximize value to users as quickly as possible..”

Vincent Merrien,
CoE Digital Manufacturing
PLM Expert,
Capgemini

The Agile accelerator

When carried out in traditional mode, PLM frequently suffer from the «tunnel» effect. For 12 to 18 months, developers strive to fulfill the long list of user requirements, right down to the big, fateful User Acceptance Test phase, which is often a source of disappointments and conflicts. In the Agile approach, users and developers collaborate much more closely. The former express their needs through more explicit user stories, while the latter achieve them in much shorter time. As a result, smaller teams work in perfect collaboration, and development cycles are no longer counted in months, but in weeks.

For a client in nuclear sector, I was able to implement in a PLM solution the first level of the design and industrialization process of a huge equipment using PLM solution—including requirements management and modifications management—in less than eight months.

With Agile, we gain in speed, visibility, but also in quality because problems or misunderstandings are detected early. Only completed, tested and validated user stories are included in releases, which greatly limits risk and waste. This led to increased trust between all stakeholders and a collective dynamic that is crucial to the success of the project.

The work carried out by the teams, in perfect synchronization, accelerates greatly the pace:

- New release every 15 days, full release every 10 weeks
- Releases validation in 10 days and deployment within a month (compared to three to six months with traditional approaches)

The DevOps accelerator

The DevOps approach allows the IT department to think Operations already in Development phases. This is a significant time-saving factor because it facilitates collaboration between teams with historically different priorities, skills, methods and tools. In addition to effective communication and sharing of best practices, the key success factors are common tooling, process harmonization and automation of tasks that allow to change PLM Editor version at each Go Live.

The Industrial accelerator

PLM solutions are software packages that are subject to the Software vendor's rules. However, these are not always suitable for Agile practices and DevOps. It is therefore necessary to adapt the tooling and methodology to the specificities of a complex product which imposes its own parameterizing features. For example, a software package can impose up to twenty different technologies, which multiplies automation actions, validations, developer profiles, etc. Implementing DevOps with a PLM software requires the construction of a customized factory. The only way to avoid losing the time we expect to save afterwards on this project is through industrialization.

The use of pre-built blocks reduces the construction of the DevOps tool chain to just a few weeks, compared to over a year using traditional methods. And this initial gain leads to another because the agile mode is kicked off much earlier. In just a few days (compared to three months at best), the teams can rely on equipped environments for demos, prototyping, and parametrization. Without delay, they can launch workshops with businesses and capitalize on all the achievements.

Rethinking the implementation of PLM projects means securing business transformation with regular and tangible value adds

By combining these three methodological and technological accelerators, manufacturers are able to deploy a PLM solution in just six to eight months. This will allow the end users to benefit from fit for purpose processes, methods and tools, and businesses to quickly generate profits.

3 take-away for success

- The PLM must respond to the challenges of industrial digital transformation and Time to Market
- Get rid of PLM projects implementation complexity
- Deploy regularly to ease solution adoption and create value as quickly as possible