



SAP Leonardo: Fiction Or Reality?

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SAP Leonardo is not a product per se, but a collection of applications which are mostly based on open source software. And even though a lot of them only exist on paper, it's worth to take a look at the applications that do already exist.

Even though SAP Leonardo is more than a year old by now, there is still a lot of confusion about what Leonardo actually entails. This confusion becomes understandable once you take a look at the abundance of solutions and technologies that is SAP Leonardo. These solutions and technologies share a name. Other than that, they have not much in common. One could say that they are also all trending topics in the broadest sense of the term. In this regard, SAP Leonardo is really more of a brand which is promoted during marketing events to give testimony to SAP's innovation. For the sake of the argument, methods, technologies, and terms are thrown around and attributed to Leonardo all the same (e.g. Design Thinking is in the same category as Internet of Things). This does not exactly create trust.

However, Leonardo really does exist. Many of the previously announced components are available today and can be tested and evaluated. The underlying vision of SAP Leonardo primarily focuses on the Internet of Things, machine learning, big data, and blockchain. This explains why SAP is trying hard and with a gigantic marketing budget to find its footing in these areas. SAP is a new-comer, and its competitors have been working and developing solutions in these areas for decades.

The challenge which SAP wants to tackle with Leonardo is a relevant one. In the past 20 years, developers in and around Silicon Valley have brought forth numerous innovative software solutions. One could even say that this innovation is the foundation of its success and its technological leadership. Most of these

software solutions are available as open source and enable smaller companies to compete with IT giants - at least in theory. In reality, the complexity and interdependency of these software products are nearly unmanageable. Common IT managers struggle to determine which Apache solution is the one for them and their company's specific challenges. Leonardo is supposed to reduce this complexity. With Leonardo's user interface and interfaces, the underlying highly diverse architecture is supposed to become invisible to users. Consequently, customers are supposed to be able to participate in current trends without having to build up expensive know-how for every possible obscure state-of-the-art technology.

However, this only scratches the surface of SAP Leonardo. Most Leonardo applications are based on SAP Cloud Platform. The most developed Leonardo applications concern the Internet of Things and - with a lot of restrictions - machine learning. That's because on the one hand, SAP has sometimes simply rebranded existing components and added them to the pile of Leonardo solutions. On the other hand, however, SAP introduced the SAP Leonardo IoT Foundation - a sustainable and reasonable strategy which is currently being realized with new developments and acquisitions.

Leonardo IoT Foundation consists of numerous different products like IoT Services, Application Enablement, and Gateway Services. They are supposed to build on each other and help customers orchestrate the steady stream of sensor data. The information is transferred to IoT services through the Gateway; then it becomes available to all subsequent applications through Application Enablement. For this purpose, a digital thing model is created which represents the real physical objects, kind of like a digital twin would in a simulation. The goal is to provide customers with a solution

that ensures integration, operation, and maintenance of sensor networks. Furthermore, it is supposed to enable an asynchronous data processing. Besides the recently announced predictive analytics portfolio which has been rebranded like so many solutions and products before it, and is now a proud part of the SAP Leonardo family, SAP has built up a second mainstay in machine learning which is based on Google TensorFlow. There are two ways in which customers can use this solution. On the one hand, customers can profit from different predefined services which can be optimized by their own data. This is relevant for image and text recognition for business-related, industry-specific scenarios. On the other hand, customers have the option to integrate their own TensorFlow models. It is primarily here that SAP has to show how Leonardo Machine Learning can benefit customers more than their own (free) TensorFlow Serve environment to explain why they should opt for SAP's product. More and more powerful predefined models could become important for this purpose in the future.

Is SAP Leonardo fiction or reality? There is no definitive answer as of yet. The components already available today definitely look promising. If SAP consistently and sustainably develops and adapts these components and is able to provide the products that now only exist on paper in the future, however, Leonardo could actually become a competitive, comprehensive portfolio.

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