

DXC Luxoft MLOps Advisory and Implementation Services



DXC Luxoft MLOps Advisory and implementation services help organizations to maximize the benefit of their Artificial Intelligence (AI) investment. By integrating process, technology, and automation, DXC Luxoft accelerates deployment times, ensures robust operations, achieves end-to-end traceability for machine learning models, and integrates analytic insights with your business processes.

Business case

Organizations today understand that AI is at the heart of modern business and critical for the continuous success and survival in an increasingly digitalized market.

A focus on and investments in AI are justified by the potential to surpass the limitations of traditional software which is bound to the specific commands provided in code written by humans.

Conversely, AI applications provide their functionality not only based on explicitly written code but also make use of machine learning models that were trained with data. This allows them to tackle problems for which humans cannot articulate the complete series of solution steps and with this to unlock unseen functionalities.

To unleash the full business potential of AI, organizations need to make sure that it is developed, deployed and operated just as reliably and seamlessly as any other type of software application. In application development, DevOps established itself as the de facto standard for developing, managing, testing, monitoring and operating code.

MLOps leverages and enriches DevOps principles to address the specific challenges introduced by the complex interlink of code, data and machine learning models which drives AI applications.

DXC's MLOps services help organizations to professionalize their AI initiatives by achieving the highest degree of MLOps maturity. Standardization and streamlining of machine learning lifecycle management means reduced deployment times from experiment to production, end-to-end visibility into all models that are used in production and resilient model operations supported by automation. Consequently, clients will benefit

Key benefits

- Overcome the experiment – production gap
- Accelerate deployment times and increase profitability
- Reduce Operations cost through automation and end-to-end monitoring
- Increase business satisfaction with AI and foster a culture of collaboration in AI projects
- Improve your business process efficiency by integrating AI results in day to day business decisions.

from an increased number of successfully productionized AI projects, reduced development and operations costs, reliable intelligent applications and an increasingly AI-embracing culture across the whole company.

DXC's services is based on a large and continuously enhanced repository of vendor-independent accelerators, reference architectures, blueprints for organizational structures and processes, deployment scripts for functional modules and reference projects. With this, we empower our clients to regain control over the complexity of AI, generate long-term value and to transform their AI journey into a success story, independent of their current state or legacy systems.

DXC Luxoft MLOps in action

A mature consumer packaged goods client possessed a large backlog of successful machine learning prototypes that got stuck in the lab waiting to be productionized at scale.

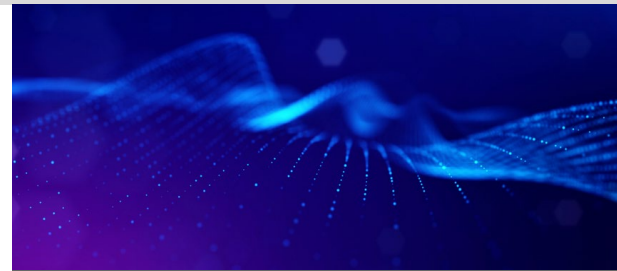
DXC LUXOFT developed an end-to-end MLOps environment and defined appropriate deployment and operations processes based on Microsoft Azure. With DXC's help, the client

- Reduced the deployment time for new machine learning model versions from five weeks to less than a day
- Ensured reliability of the models through maintaining model quality continuously
- Was able to control complexity at scale, remain in control at an enterprise level and minimize risk with increasingly more models to manage and through staff turnover
- Reduced costs by focusing data scientists on experimentation and model creation
- Achieved cost reduction of up to 75%

AI challenges and the MLOps solution (Features)

AI applications involve code, data, and machine learning models to provide their functionality. This complex setup induces various challenges that are taken care of by MLOps:

- **The lifetime of a machine learning model is limited** because machine learning models are always trained with respect to a given data state. To address this, MLOps uses advanced live monitoring and testing of models in production, alerting systems to catch model deterioration, and automated retraining to keep models fresh.
- **Data Quality is unreliable** and needs to be monitored closely both in model training and model consumption to enable rapid adaptation
- **AI is interdisciplinary by nature** and does not allow for any knowledge silos. MLOps culture fosters cross-functional teams of developers, data engineers and data scientists.
- **Change is the new normal** and therefore, MLOps ensures end-to-end traceability and reproducibility by versioning data, code and models as well as making use of automated tracking of meta-information
- **Resource consumption varies strongly** between training, consumption, and other steps of the model lifecycle. This is why MLOps leverages clustered infrastructures, flexible environments, and micro service best practices.
- **Responsible AI** in regulated industries requires explainability, documentation on how a model was built and tuning to achieve responsible modeling and avoid biases.



Why DXC Luxoft?

- Our MLOps Services are Integrated with delivery capabilities across analytics and engineering, for example Transformation and Agility for change management agile transformation, or Smart Places and Things for embedding ML professionally from edge to core.
- Flexible, vendor independent services that advance your MLOps maturity regardless of legacy systems.
- A large and continuously growing repository of accelerators that accelerate time to value
- Big vendor partners like Microsoft, and AWS for MLOps cloud solutions
- Complete instead of complex. DXC Luxoft operates mission critical elements such as infrastructure, integration, versioning, experiment tracking, automated retraining, and performance monitoring

Get started

Reach out to start transforming your AI journey into a success!
www.luxoft.com/services/data-to-insights/