

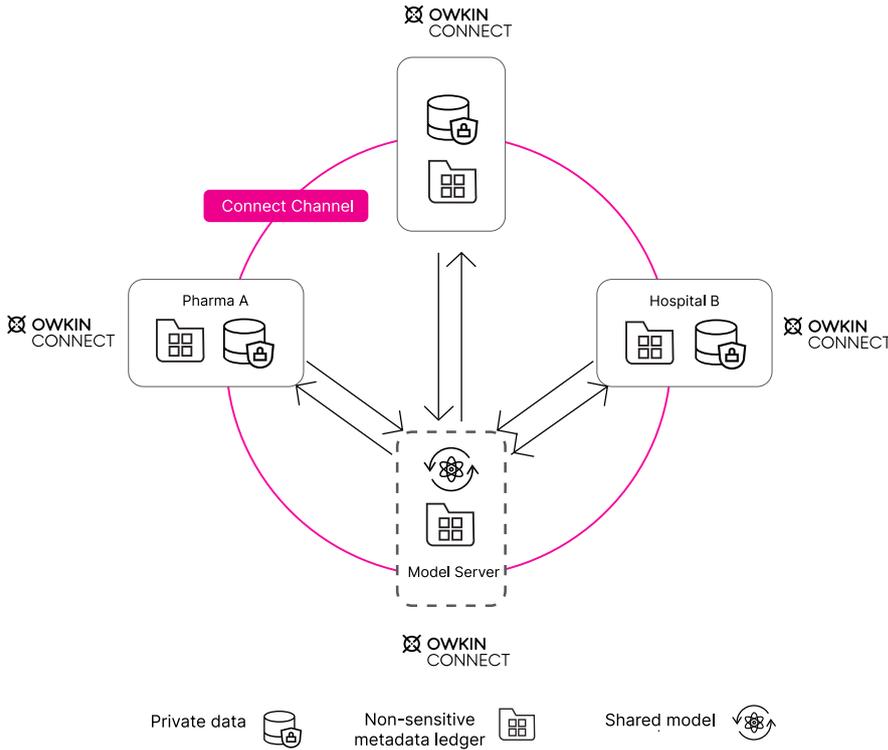


# Introducing Owkin Connect, our Federated Learning Software

Federated learning to break medical data silos

## Connect high value datasets while protecting privacy & security using federated learning

Many, high-quality data points are needed to successfully train machine learning models and advance medical research. Our federated learning software called Owkin Connect, allows you to unlock collaborative medical research by connecting datasets without compromising privacy or security.



### Train machine learning models on distributed data at scale

Owkin Connect allows companies to extract insights on decentralized data to solve the data sharing challenge in healthcare. With additional layers of privacy and encryption in place, the data's confidentiality cannot be breached. This framework complies with GDPR and other data privacy regulations (HIPAA).

### Unlock collaboration between hospitals/research centres:

By using Owkin Connect, collaborative projects like HealthChain can successfully train machine learning models on histology images, siloed at different clinical centers, to predict treatment response in breast cancer. Owkin Connect allows oncologists to select the most effective breast cancer treatment for each patient, based on a single biopsy, and identify high-risk patients for clinical drug trials.

### Unlock collaboration between Life Science companies:

Owkin coordinates the MELLODDY Project, where 10 of the biggest pharmas collaborate on the world's richest collection of small molecules with known biochemical or cellular activity. MELLODDY is powered by Owkin Connect which enables collaboration via federated learning models trained on decentralized data without exposing proprietary information. The project uses machine learning methods on the consortium's chemical libraries to develop a platform to train more accurate models to predict which compounds could be promising in the later stages of drug discovery and development.

### HealthChain

€10M-funded consortium of 4 French research centers



### MELLODDY

10M-funded consortium of 4 French research centers



## Owkin Connect's unique features:

### Training



Seamless training over distributed datasets with powerful data science interfaces.

### Heatmap



Model visualization & interpretability for histology and genomics.

### Traceability

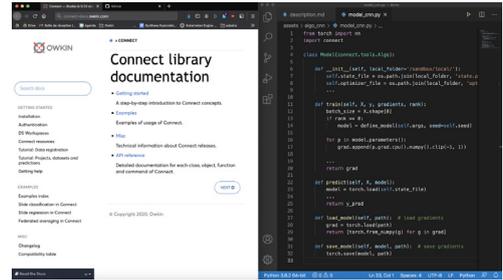


Monitoring, traceability and fined grained permissions for a complete control of data manipulations.

# ⊗ How does Owkin Connect work?

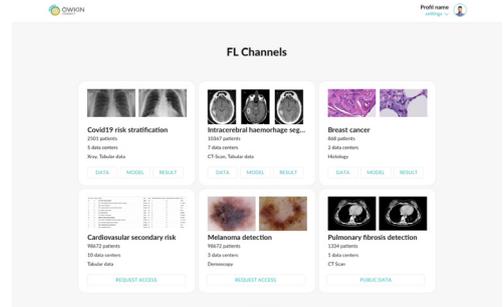
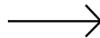
## 1. Connect library documentation

Owkin Connect is powered by an easy-to-use python library which makes it possible to completely operate the platform from your python environment. It also comes with extensive documentation.



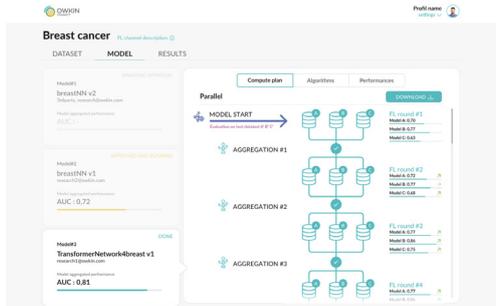
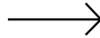
## 2. Data

Owkin Connect gives medical researchers and data scientists access to federated learning channels, where they can register datasets and be provided with cohort metrics and data visualization within the cohort before launching



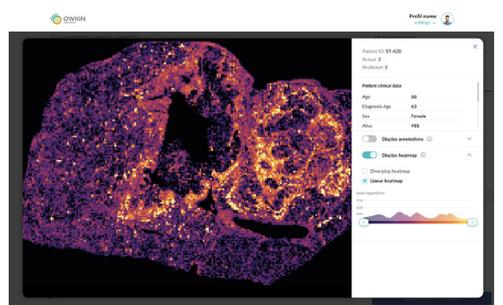
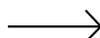
## 3. Models

Users can track the model training development (called the Compute Plan) step by step. Once the federated run is complete, they can examine the overall performance of the local and federated models throughout the evaluation steps.



## 4. Results

Users can examine the results in more detail, slide by slide. For example, they can check which tiles were the most predictive of certain features. Heatmaps are overlaid on slides to help them find regions of high concordance with the predicted features.



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