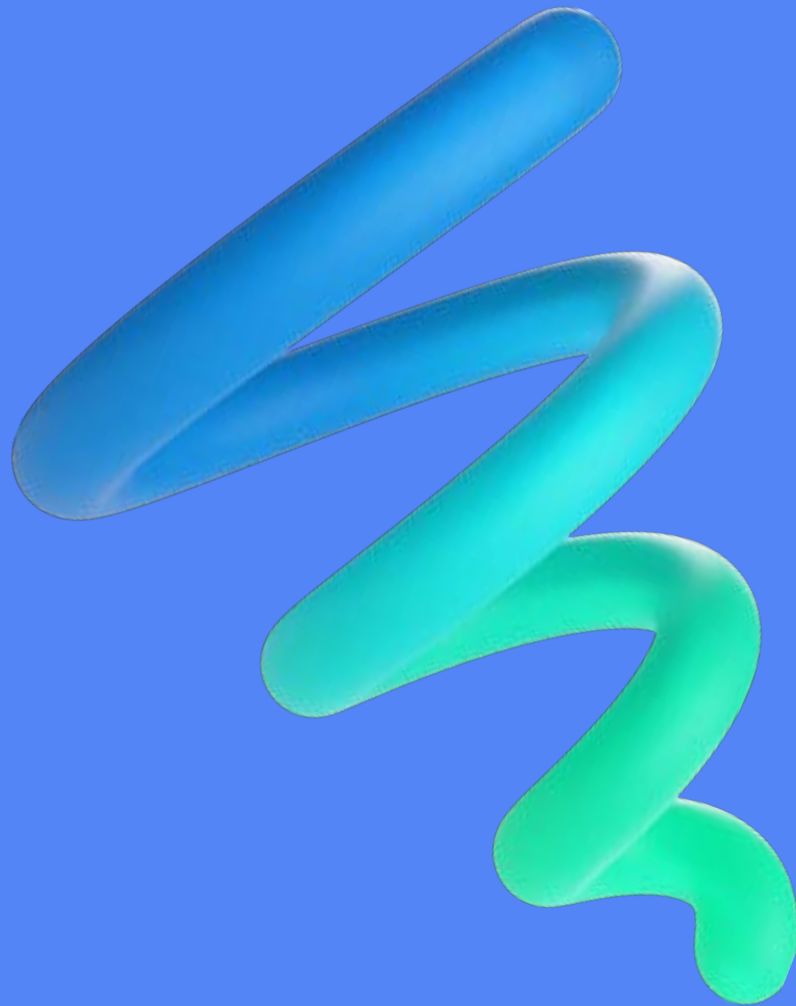


case study

EPAM Startups & SMBs



extending WaveBreak's operations
with a data management platform

WaveBreak stands at the forefront of biopharmaceutical innovation and is dedicated to revolutionizing drug discovery for neurodegenerative diseases. At the core of its mission lies a profound commitment to targeting the elusive protein intermediates crucial to the intricate pathways of these debilitating conditions — a realm often beyond the grasp of conventional drug discovery methodologies.

Founded in 2016, the company believes it has a novel way to analyze the underlying biology of diseases like Parkinson’s disease, Lewy body dementia, Alzheimer’s disease, and ALS, forecasting a unique approach toward their prevention, cure, and alleviation of symptoms.

WaveBreak has engineered a pioneering drug discovery platform designed to intercept these transient protein intermediates (oligomeric states), utilizing the power of small-molecule therapeutics. However, like many startups, it faced significant data management and analysis challenges.

This case study delves into how WaveBreak Therapeutics found a solution by collaborating with EPAM Startups & SMBs to accelerate its data management and software development initiatives.

quick facts about our cooperation

2

experts involved

pharma

industry

2 years

duration

**team
augmentation***

type of engagement

*Staff augmentation is one of the types of engagements that EPAM Startups & SMBs provides. With staff augmentation, clients add more capabilities to their existing teams and hire our experts to have more hands on deck when it comes to developing their projects.

our data analytics competency: a comprehensive overview

Backed by EPAM, a global leader in digital platform engineering, our global team is widely recognized for its robust data and analytics competency. Our data analysis capabilities play a crucial role in helping our clients to innovate, disrupt, and lead in their respective industries. Our comprehensive services encompass the conception, design, and building of big and fast data solutions, enabling businesses to make quick informed decisions that drive value.

800+

high-complexity projects
delivered

200+

proprietary blueprints &
frameworks

30+

tech & business service
offerings

Technological expertise

Tools and technology

Our data science professionals utilize cutting-edge tools and technologies like Python, R, SAS, MATLAB, SQL, and NoSQL databases.

Adoption of AI and machine learning

We leverage AI and machine learning in predictive modeling to gain valuable insights from considerable and complex data sets.

Partnerships with technology leaders

Our approach involves partnerships with top-rated tech entities, including MongoDB, Apache Hadoop, Splunk, and Microsoft, to deliver bespoke analytics solutions for our clients.

aiding biophysical data management with a comprehensive data platform

WaveBreak, in its early stages, faced challenges common to many growing companies, particularly in data management. The company's data, a treasure trove of valuable information, was dispersed across various systems and devices.



"Identifying which experiments involved the compounds of interest was a time-consuming task. Ideally, this should be a 5-minute database query. However, to reach that level of efficiency, all relevant data must be cataloged and accurately described."

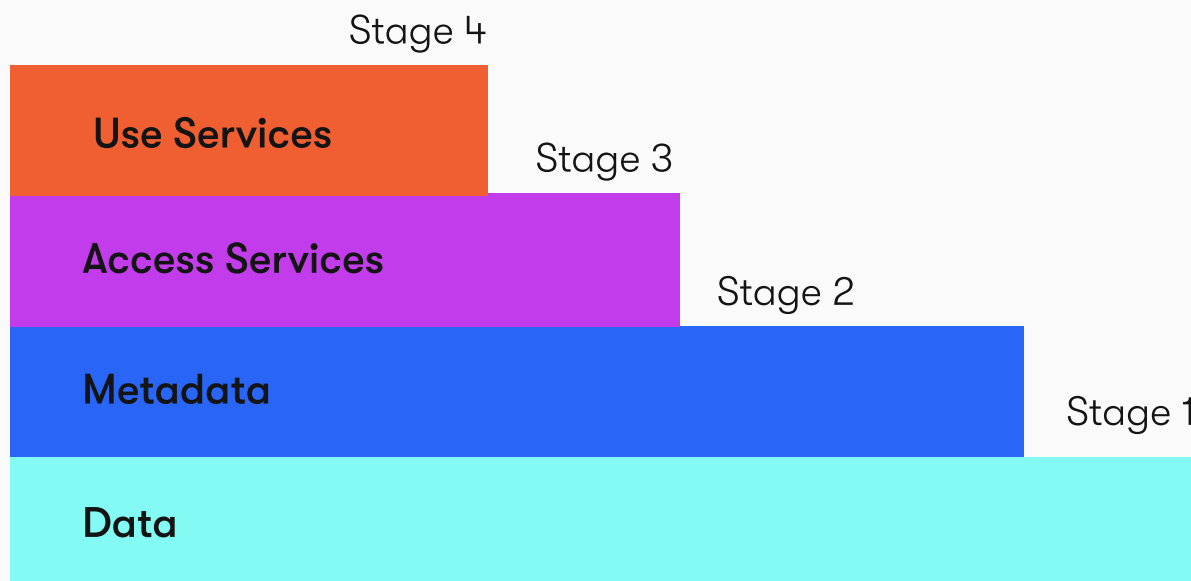
Aleksandras Gutmanas

Data Manager, WaveBreak

Recognizing the need for expert assistance, WaveBreak partnered with EPAM Startups & SMBs. The main goal was to design and implement a robust, FAIR (findable, accessible, interoperable and reusable) data management system. With our technical expertise and experience, we have helped to develop and support the data platform for more than two years.

The new data management platform ensured that each experimental activity, whether performed in-house or outsourced, can be easily documented, categorized and retrieved whenever needed. The advanced data system also facilitated quick searches to identify the relevant experiments that included the required compounds.

implementing FAIR solutions



Four-Stages roadmap approach

FAIR adoption process

FAIRness assessment	implementation activities
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> evaluation of compliance <hr/> <input checked="" type="checkbox"/> analysis of gaps <hr/> <input checked="" type="checkbox"/> strategy for the adoption of FAIR principles 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> selection and definition of the technical activities <hr/> <input checked="" type="checkbox"/> technology selection, design, implementation, test & operation

pre-implementation phase

In the research-intensive environment of biomedical drug discovery, WaveBreak was accumulating vast amounts of complex data. However, managing, analyzing and extracting valuable insights from this data took a lot of work due to the limitations of their existing data infrastructure. This could have impeded their efficiency and slowed their pace of research.

FAIR implementation

Understanding the necessity for a robust, scalable and efficient data management system, WaveBreak partnered with our team to develop a cloud-based data management platform (DMP). This platform was built on AWS infrastructure primarily using Python scripts due to the language's simplicity, ease of use and extensive capacity for scientific computing.

Our Python engineers applied the principles of FAIR (Findable, Accessible, Interoperable, Reusable) data, ensuring an efficient and versatile system for data handling and analysis. The data generated through WaveBreak's research became readily findable through comprehensive metadata.



“That was the goal: to have a FAIR data management system in place. It was too much for the team because we worked with many experimental techniques. We had to get help from outside, and that was the first project EPAM helped us with.”



Aleksandras Gutmanas

Senior Data Enablement
Manager, WaveBreak

post-implementation outcomes

The implementation of the Python-based DMP facilitated a more efficient workflow for WaveBreak. The system streamlined the data management process, resulting in quicker extraction of essential insights that significantly improved the decision-making process in drug development — automating redundant data tasks and applying FAIR principles significantly elevated WaveBreak's productivity, leading to enhanced data findability, accessibility, interoperability, and reusability.

discovery of EPAM Startups & SMBs



April 2022

cooperation starts

Both parties align on the project's objectives, strategies, and plans to ensure a seamless and successful collaboration.



February 2023

expanding the talent pool

A Lead Software Engineer, adept in Python and experienced in managing data pipelines, joins the team, enhancing its capabilities and expertise.



January 2024

resource reallocation

A new Python developer joins the team, ensuring the project stays on track and continues to benefit from an experienced skill set.



March 2024

project completed

WaveBreak project objectives are achieved with the newly implemented data management platform, ready to assist the fight against neurodegenerative diseases.

talent onboarding that leads to a successful collaboration

At EPAM Startups & SMBs, we pride ourselves on having a pool of highly adaptable talents who are rapid learners and experts in their respective domains. They are equipped with a unique ability to adjust to new environments, processes, team dynamics and project requirements.

Our hiring process is designed to select individuals who can demonstrate a high level of adaptability, ensuring that they're technically proficient and agile enough to navigate varying work scenarios and cultures.

This adaptability makes it easy for our talents to be onboarded. They naturally absorb new information, understand operating procedures, and quickly align themselves with specific project goals. This enables them to transition into new roles and start contributing swiftly.

3 stages of WaveBreak project onboarding

01 high-complexity projects delivered

Newly assigned developers learn about the company's goals, the team's specific objectives, and their initial tasks. Understanding WaveBreak's mission helps the new team members engage more deeply with their work.

02 proprietary blueprints & frameworks

Detailed discussions about the start of the assignment help the team members understand their role more clearly. Active questioning, a recommended practice at this stage, aids in clarifying doubts and filling any gaps in understanding.

03 tech & business service offerings

Initially, short meetings are held every day for the first two weeks, after which the frequency is reduced to alternate days, then to two days a week, and finally, once a week. This progression helps the new members transition smoothly from the onboarding phase into a steady work process.

This dialog-based and interactive onboarding process simplified the initial integration of new team members and provided a clear understanding of the project's requirements. It emphasizes engagement, interaction, and curiosity, providing the context for productive contributions toward the company's goals.

begin your journey with EPAM Startups & SMBs

We are a trusted partner for startups and SMBs wanting to upscale their software solutions. We offer flexible collaboration types and support over a hundred technological capabilities while providing a wide range of tech services.

Being a global hub of over 50,000 developers, solution architects, designers, business analysts, and other tech professionals at EPAM, we can assemble a reliable team that fits your requirements or augment your existing team's abilities. We ensure transparency, plus enterprise-level software development excellence from a team driven to steer your journey to success.

Consultation

Our consultants are available for a free consultation to help you find the best solution or answer inquiries about partnerships with EPAM Startups & SMBs.

Planning

Upon assembling a team, we will plan your project development roadmap.

Starting

Initiate your project with our dedicated team of engineers, designers, and project managers.



**kick off your project with
EPAM Startups & SMBs
100+ tech competencies and
services available**

[get in touch](#)

[estimate the cost of your project](#)