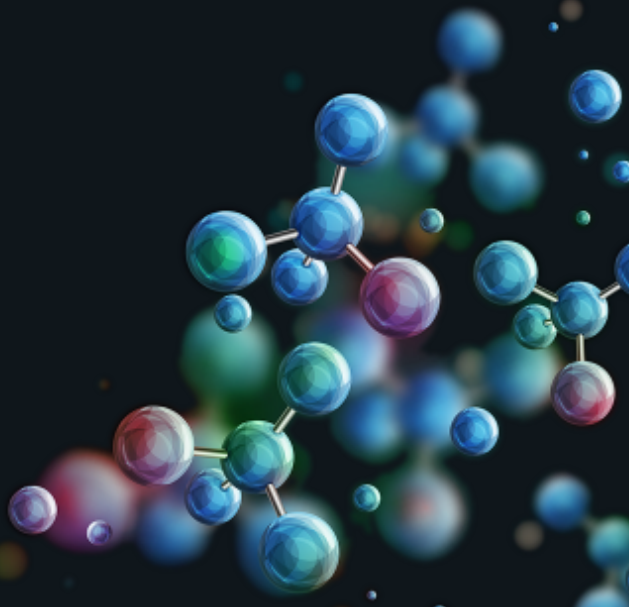




Getting Ready for Enterprise Grade Quantum Computing Lead the Next Life Sciences Revolution





Get in touch: partnerships@ionq.com


Invest in Tomorrow, Benefit Today


Quantum computing can revolutionize the Life Sciences industry by accelerating high-value drug discovery processes, potentially capturing a market worth \$40-80B, with 90% attainable by early adopters.


IonQ is leading the transition from experimental quantum systems to enterprise grade offerings.

 **Driving Commercial Momentum**
Fastest growing quantum company (Deloitte Fast500) with customer engagements across verticals

 **Clear Path To Commercial Advantage**
Targeting scalable commercial quantum advantage in the next few years with #AQ 64 Tempo system.

 **Customer Focused Applications Team**
Dedicated team of domain experts who have worked with enterprise customers on key use cases.

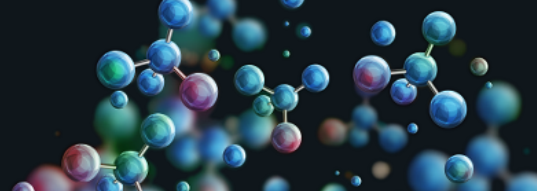
 **Leading Trapped Ion Quantum Tech**
Using atoms—nature’s quantum system—IonQ’s qubits are high fidelity and maintain long coherence, allowing for larger problems to be solved.

 **Hybrid-Ready**
IonQ’s roadmap aims to deliver our first data center ready, rack mounted quantum computer in 2025, enabling co-located, hybrid workflows for the first time.

Innovate Across the Life Sciences Value Chain

The unique benefits of IonQ’s trapped ion technology can add value across the whole value chain, from Research & Development to Production to Logistics/Supply Chain through Commercial Access.

Stage	Application Opportunities
Research	<ul style="list-style-type: none"> Modeling Drug-Target Interactions Target Finding Hit generation and Identification Lead Generation Protein Folding and Structure Prediction Virtual Screening
Development	<ul style="list-style-type: none"> Site Selection Optimization Patient Identification
Production	<ul style="list-style-type: none"> Product Formulations Predictive Maintenance
Supply Chain and Logistics	<ul style="list-style-type: none"> Route/Network Optimization Procurement Optimization
Commercial Access	<ul style="list-style-type: none"> Advanced Forecasting Drug Recommendations Predicting Outcomes Image Classification



Get an Edge with Proven, Enterprise-Ready Partnership

Customers leverage IonQ's latest systems and support from the application services team to unlock value in quantum research across various fields, including life sciences.

AFRL

OAK RIDGE
National Laboratory

UNIVERSITY OF
MARYLAND



GE Research

HYUNDAI AIRBUS

IonQ Case Study

Synthetic Data Generation

Generated micrograph images (metallurgy) based on rare training data to generate realistic example images of materials.

Correlation Analysis

Developed financial time series correlations to generate examples of daily stock returns, reflecting correlations in historical data.

Predictive Maintenance

Predict when equipment will need maintenance, based on information about performance and equipment conditions.

Computer Vision

Load image data sets (street signs, cars) onto IonQ systems to identify different types of street signs in images.

Combinatorial Optimization

Find the optimal configuration for packing containers into an airplane with constraints.

Chemistry Simulation

Completed battery and fuel cell modeling - IonQ simulated the chemical reactions in batteries on our Aria systems.

Life Sciences Examples

Generating drug candidates, supplementing (augmenting) rare (sparse) clinical data

Clinical trial data; detecting correlations, higher order effects

Predicting patient outcomes, Down-selecting (triage) drug candidates based on lab data

Imaging, pathology (rare conditions) and fraudulent drug monitoring

Optimization (design of experiments) of bioprocess methods, process parameters (maximize yield)

Localized Drug-Target Interactions, Optimizing potentials for HPC methods, improving drug manufacturing pathways (workflows and procedures)