



**BHADALE GROUP OF COMPANIES  
- IT AND REAL ESTATE**



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Quantum AI Technologies Catalogue

Bhadale IT Pvt. Ltd. (<https://www.bhadaleit.com/>)

Bhadale Group of Companies consists of:

1. **Bhadale IT Pvt. Ltd** is an IT and Computer Engineering subsidiary company

This division provides consultation in areas of cutting edge technologies, research outsourcing, and software consultation related to data center and related engineering practices

2. **Bhadale Engineering Pvt. Ltd** is a multi-engineering subsidiary company

Bhadale Group has aggressive programs in place to serve the niche market. Below is related to cloud ecosystems

#### **Bhadale Group, Quantum AI department**

This catalogue offers an overview of the various quantum AI technologies available in the market. Here we discuss the key technologies used in quantum AI computing

Details of the above are put in the table below



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We have a large set of subcategories; few are mentioned below with details tabulated

No.	Quantum AI area	Use Cases	Our Offerings
1	Planning of Quantum AI strategies, migrations and transformation roadmaps	<ul style="list-style-type: none"> <li>Model-Driven Engineering for Quantum Artificial Intelligence(MDE4QAI) [1]</li> <li>Quantum AI Integration landscapes, and environments [2]</li> <li>Quantum AI initiatives, policies, governance, training programs and various strategies at enterprise and departmental levels</li> </ul>	<p>We offer planning and roadmaps based on various use cases and needs. Use of kits like, PlanQK ( stands for Platform and Ecosystem for Quantum-Assisted Artificial Intelligence)</p> <p>We offer quantum AI tools, standards from IEEE, NIST, QIA and related industries</p> <p>We offer domain specific taxonomy, datasets, inference engines, frameworks and offer roadmaps for transformation of in-house and cloud platforms to meet the needs of Quantum AI.</p>
2	Quantum –AI /ML based systems	<ul style="list-style-type: none"> <li>Quantum algorithms for faster AI/ML convergence</li> <li>Feedback systems</li> <li>Control systems engineering</li> <li>Robotics</li> <li>Intelligent adaptive security preventing DDoS attacks and simulated attacks</li> </ul>	<p>We offer design and development of the algorithms that enable speedup of the ML, NN based learning curve, faster iterations and convergence to the required results</p> <p>We offer design, development and integration of quantum and AI/ML platforms, software that enable faster propagation and feedbacks for industrial grade systems and prevention of various attacks and threats using intelligent agents against cyber warfare, cyber crime and online thefts and fraud preventions. Tools for better defense and risk management</p>
3	Quantum –AI based optimization	<ul style="list-style-type: none"> <li>Faster and accurate industrial systems</li> <li>Better and faster medical decisions</li> <li>Faster and accurate fraud detection</li> </ul>	<p>We offer reengineering, with maximum reuse of existing platform assets that help you avail the benefits from both paradigms in a economical way</p> <p>Our optimization solutions offer various advantages that help industries, society to reap</p>

		<ul style="list-style-type: none"> <li>• Better Banking and trading experiences</li> </ul>	the benefits that help Governments to gain better productivity with same investments
4	Quantum AI hardware units, accelerators, FPGA	<ul style="list-style-type: none"> <li>• Better integration of quantum AI software stack with the hardware units</li> </ul>	
5	Quantum AI based Security	<ul style="list-style-type: none"> <li>• Post Quantum cryptography</li> <li>• Wire and Wireless quantum based intelligent traffic, theft detection and effective management</li> </ul>	
6	Quantum –AI based industrial solutions	<ul style="list-style-type: none"> <li>• Faster Drug discovery</li> <li>• Better Diagnosis and treatment</li> <li>• Personalization of general services</li> <li>• Improved production</li> <li>• Better agriculture management</li> <li>• Better Climate control</li> <li>• Better Living</li> <li>• Research aid for alternate energies, mass security management, real time threat detections</li> <li>• Real time monitoring for accident preventions</li> <li>• Better and faster prediction of market, economies and external threats</li> <li>• Better and more precise sensors and electronic gadgets</li> <li>• DNA inspired computation</li> <li>• Better supply chain management</li> </ul>	
7	Quantum AI Data science	<ul style="list-style-type: none"> <li>• Speed up of big data processing</li> <li>• Near real time data management, transformations and intelligence</li> </ul>	

		<ul style="list-style-type: none"> <li>• Speedier decision making report generation</li> <li>• Secure data transmissions and use of newer quantum channels for large volume transfers</li> <li>• Faster quantum internet based high data management</li> <li>• Better distributed load management</li> </ul>	
8	Quantum-AI for environmental challenges	<ul style="list-style-type: none"> <li>• Aids research in discovery of alternate fuels, newer fuel engines, cleaner exhausts</li> <li>• Lowering carbon emissions</li> </ul>	
9	Quantum-AI based Govt aids	<ul style="list-style-type: none"> <li>• Better and faster governance</li> <li>• Better border control and security</li> <li>• Better and effective use of natural resources, finance and other Govt. assets</li> <li>• Better and faster human resource management , resident services, social security etc</li> </ul>	
10	Quantum-AI for National Defense	<ul style="list-style-type: none"> <li>• Better command and control</li> <li>• Faster rely of secure messages</li> <li>• Faster and better battlefield simulations</li> <li>• Better supply chain management</li> <li>• Hacks for averting enemy threats using superior weapons</li> <li>• Better 3D vision, virtual and augmented reality for better decision making</li> <li>• Gadgets to meet all types of threats and offerings to edge over enemies</li> </ul>	

11	Quantum-AI for Space programs	<ul style="list-style-type: none"><li>• Faster autonomous and intelligent navigation, telemetry and data transmissions</li><li>• Safe and secure payloads and data transfers among known systems</li><li>• Quantum radio transmissions</li><li>• Quantum sensors</li></ul>	
12	Quantum –AI custom solutions	<ul style="list-style-type: none"><li>• Tailor made to meet your budget, time and mode of technology transfer</li></ul>	

## References:

- 1
- 2 <https://www.hpcwire.com/2021/02/02/quantum-ai-consortium-grows-seeks-open-ecosystem/>

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