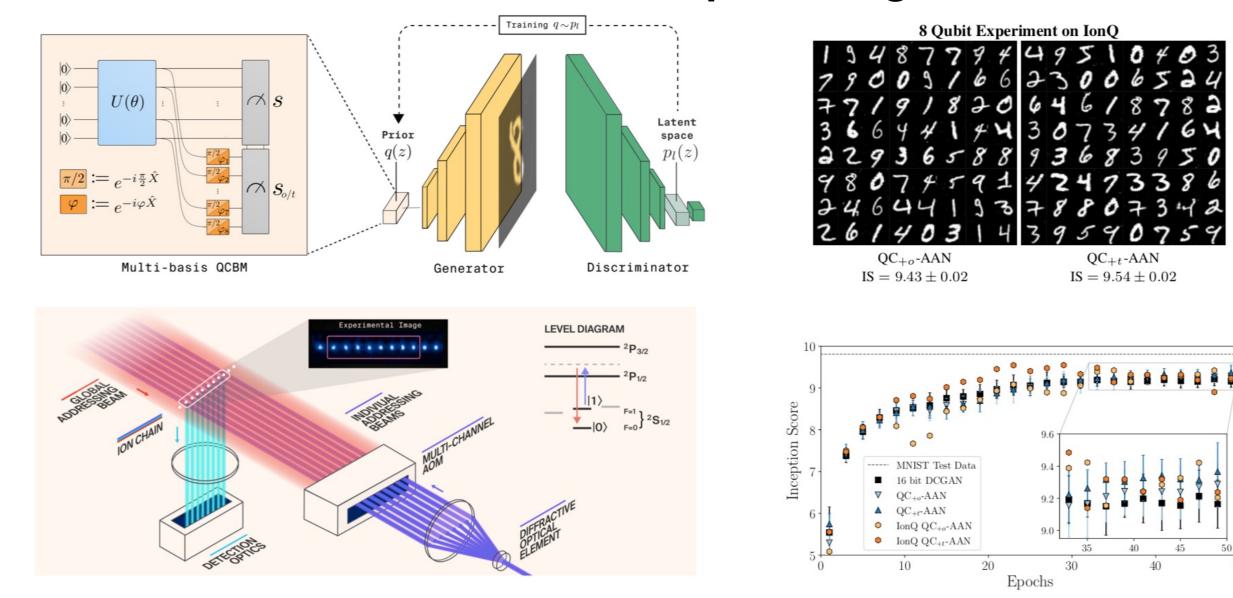


## Advances Have Real Impact, Industry Use Cases

# Yudong Cao Chief Technical Officer



#### **Quantum-enhanced classical deep learning**

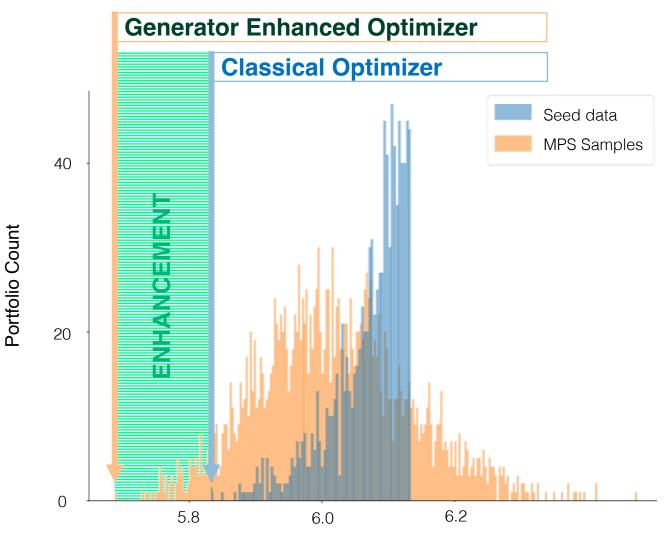


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#### **Generator Enhanced Optimization Example Results**



- (Right): GEO generated lower-risk financial portfolios
- GEO can be used for optimization problems in any industry



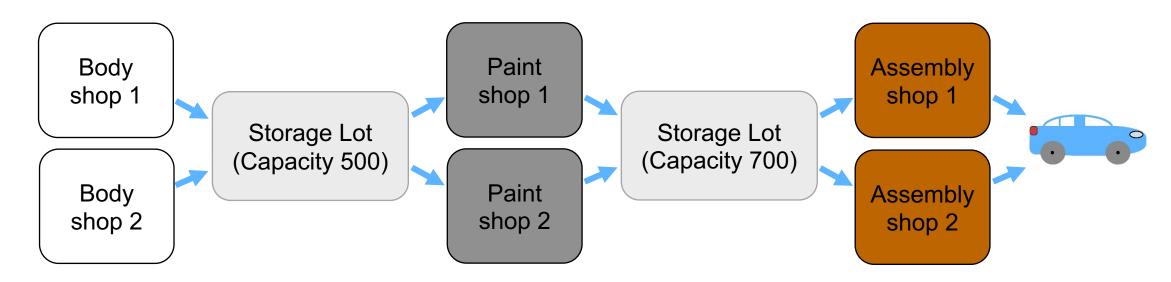
Alcazar and Perdomo-Ortiz.

Enhancing Combinatorial Optimization with Quantum Generative Models (arXiv2101.06250)

Risk x 10<sup>3</sup>

## Industry case study: Zapata-BMW-MIT

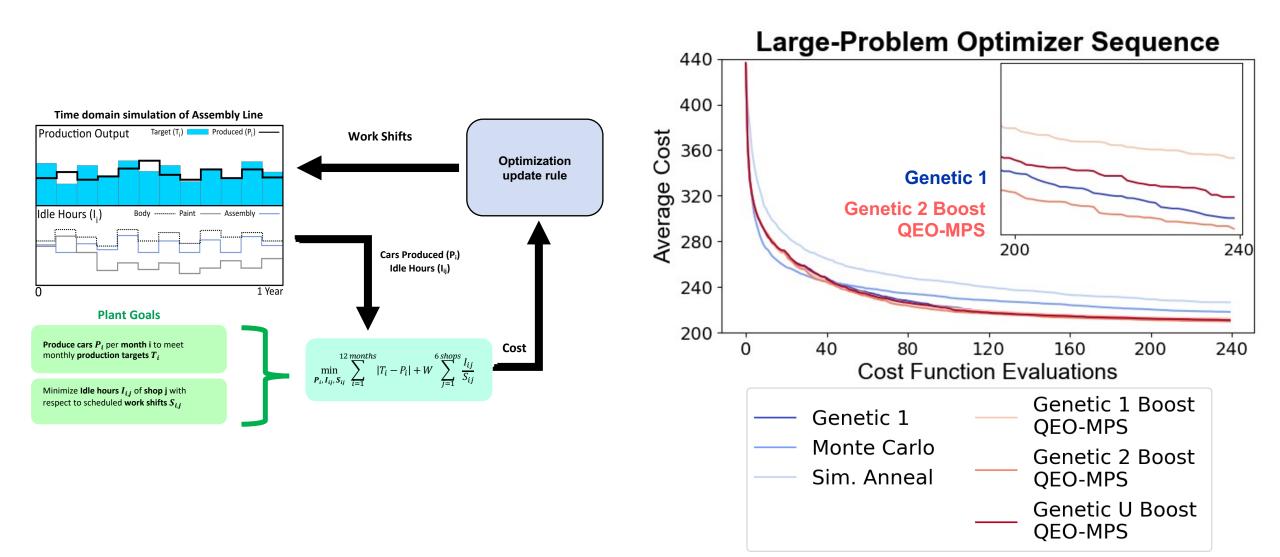






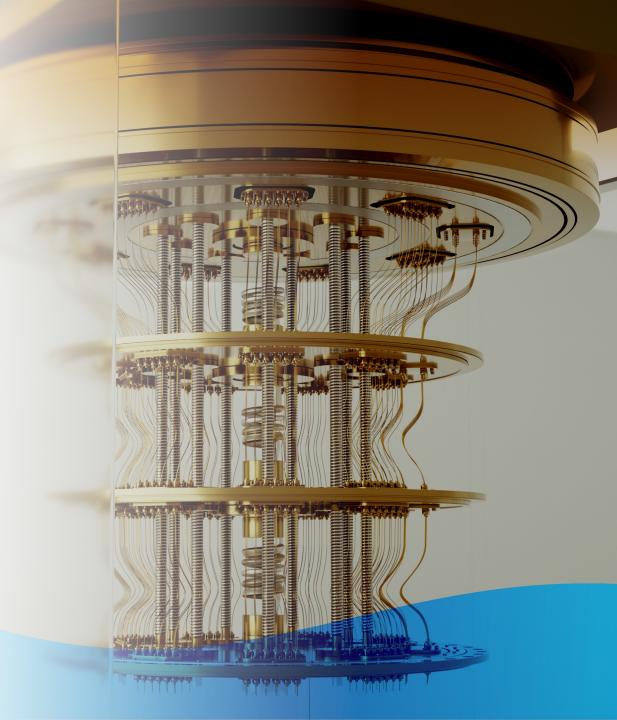
### Industry case study: Zapata-BMW-MIT





# ΑΤΙΑΝΤΙΝ <sup>Q U A N T U M</sup>

Building scalable quantum computers



#### The Problem

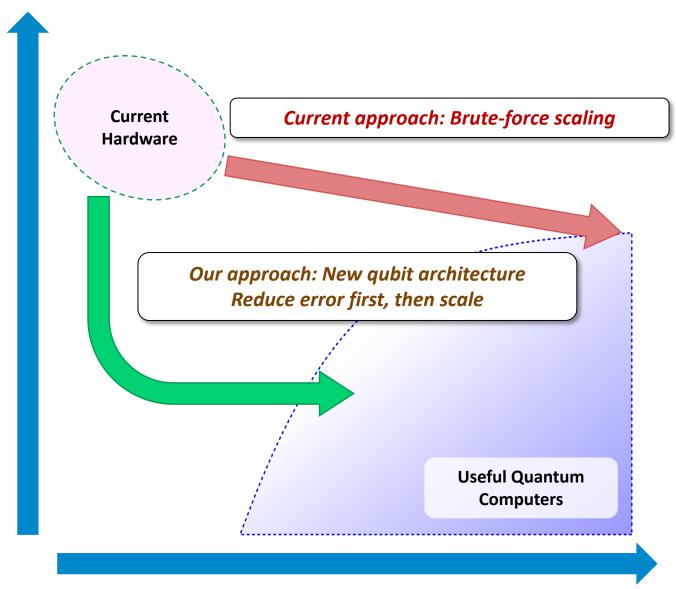


Large Error Rates 01010 10010 10100 00101

#### **Unscalable Control**



Error Rate



#### **Number of Qubits**