

Preparing for the Quantum Age

(but Profiting Earlier)

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QAR-Lab, LMU Munich

Industrial use cases by PlanQK & Bayern Innovativ

World of Quantum, 2023-06-27



Why Quantum Computing?

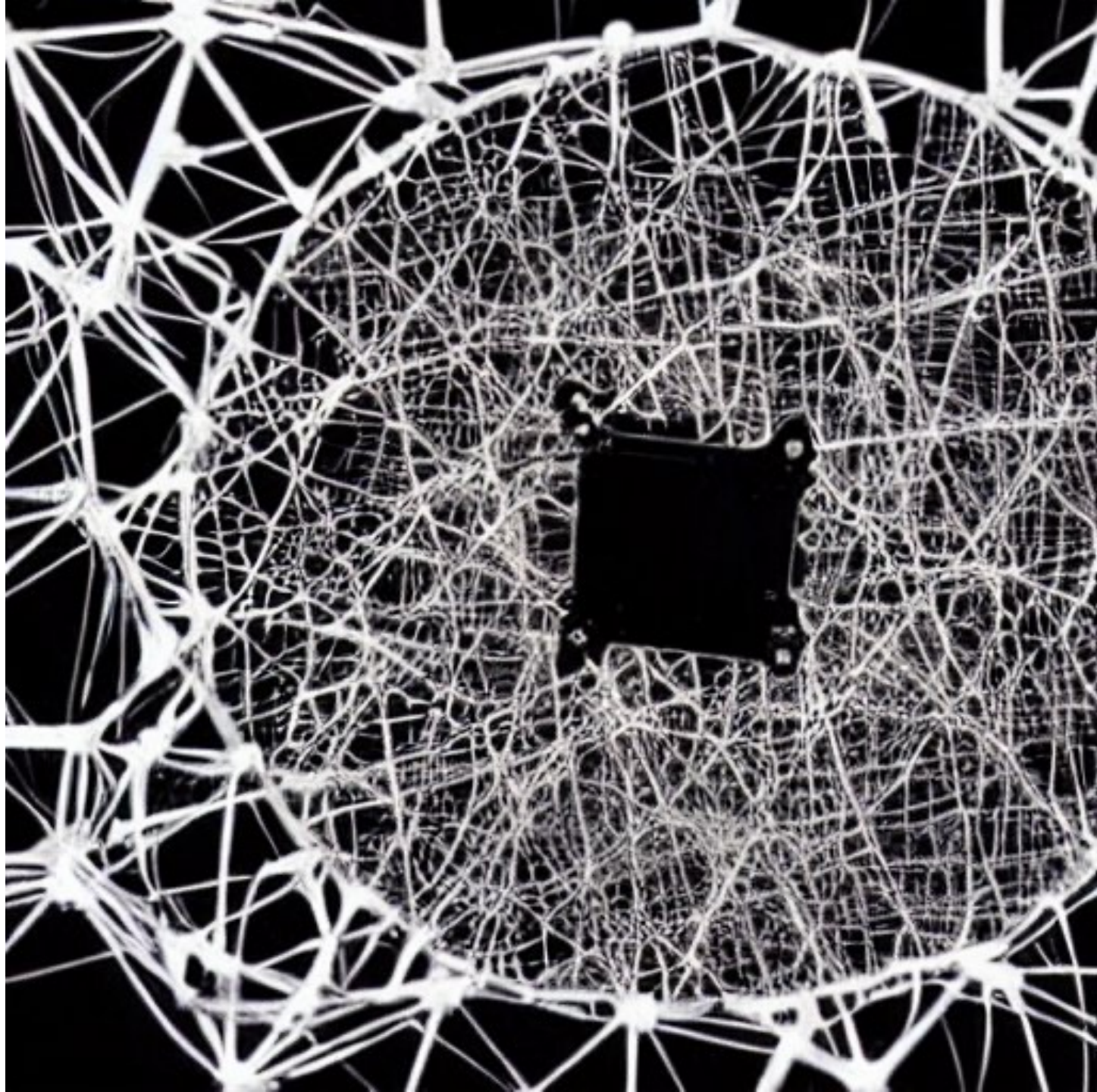


It's new!

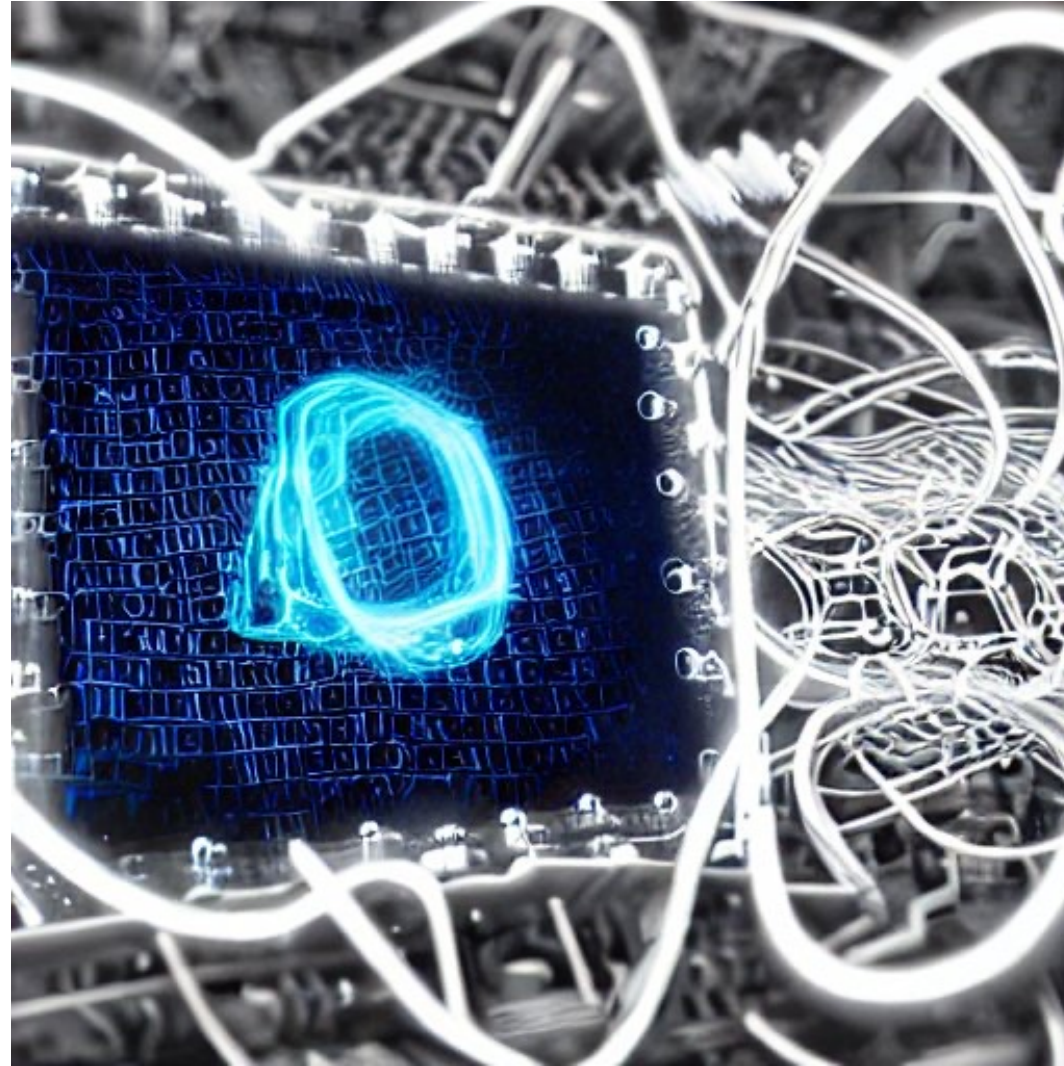
stablediffusionweb.com
prompt: a quantum computer surrounded
by the bright light of a hopeful and
innovative future

Everyone else
is doing it!

stablediffusionweb.com
prompt: a quantum computer
shredded in the darkness
of the fear of missing out



I need a better understanding...



stablediffusionweb.com
prompt: a quantum computer
doing complex calculations
to reveal a deeper truth

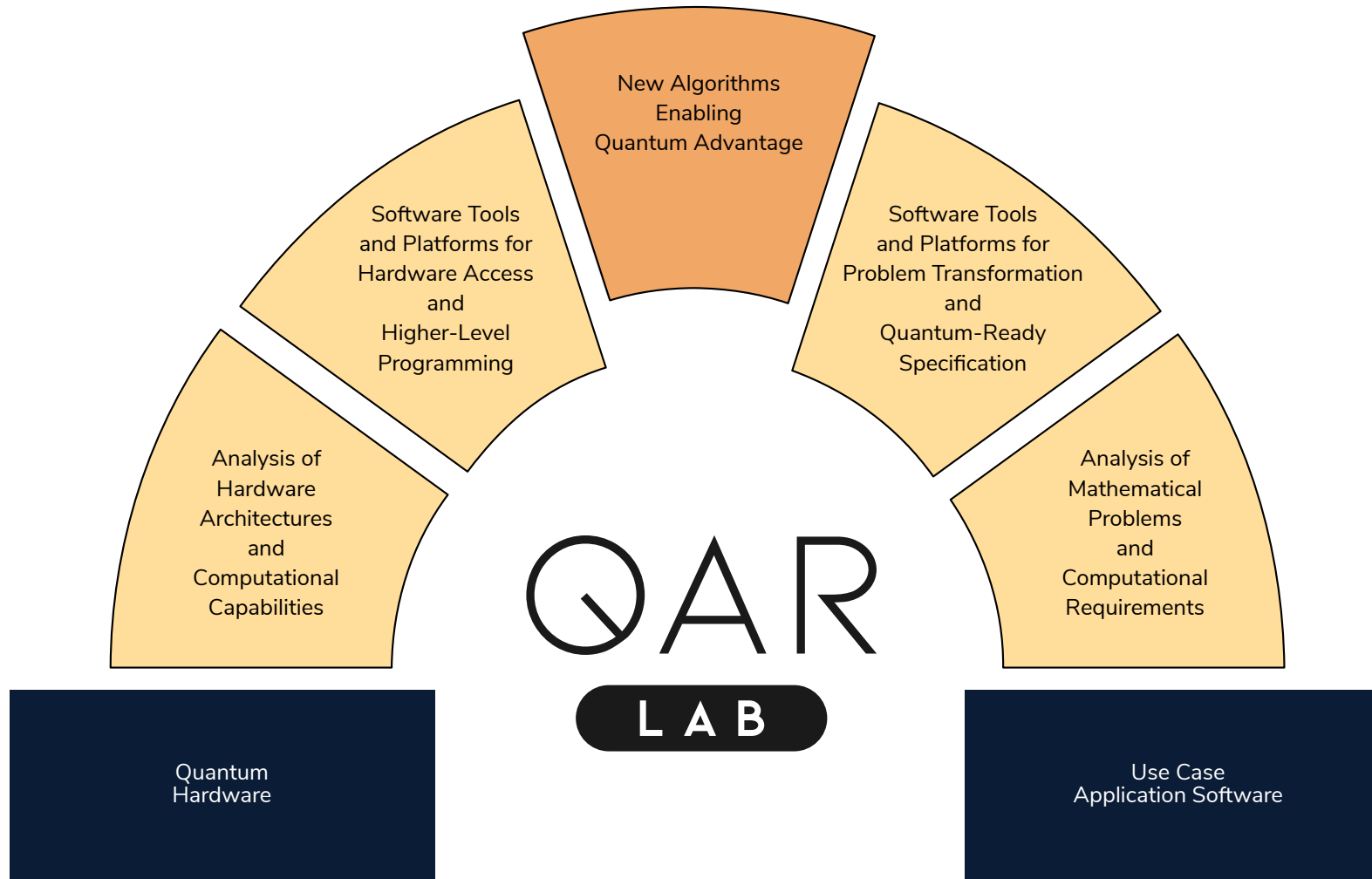
Understanding the Applications

What quantum algorithms provide an advantage?

What amount of complexity is targeted?

What are relevant problems in industrial practice?

Our Perspective



How to Prepare

What quantum algorithms provide an advantage?

New approaches??

What amount of complexity is targeted?

*variance? Data size?
Approximability?*

What are relevant problems in industrial practice?

*Frequency? Specificity?
Impact?*

How to Prepare

What quantum algorithms provide an advantage?

What amount of complexity is targeted?

What are relevant problems in industrial practice?

New approaches??

Variance?

Data size?

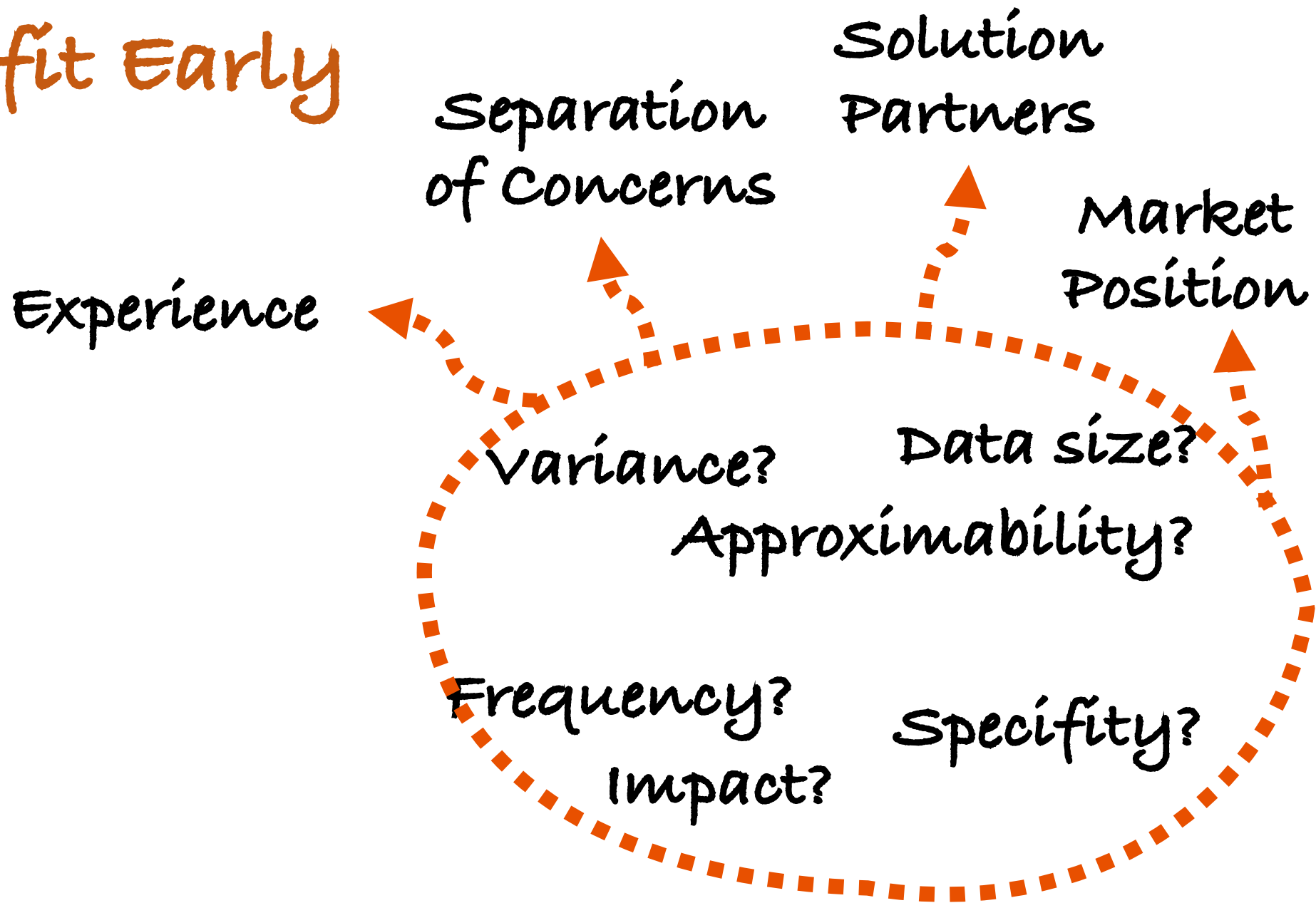
Approximability?

Frequency?

Specificity?

Impact?

How to Profit Early





stablediffusionweb.com
prompt: allegoric painting
of the benefits in
humanity's future brought
about by new quantum
algorithms

Quantum Computers are not Finished

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Thank You!

