

WHAT IS THE PROBLEM?

Why we need quantum sustainability



problem complexity &
sustainability constraints



profit margins

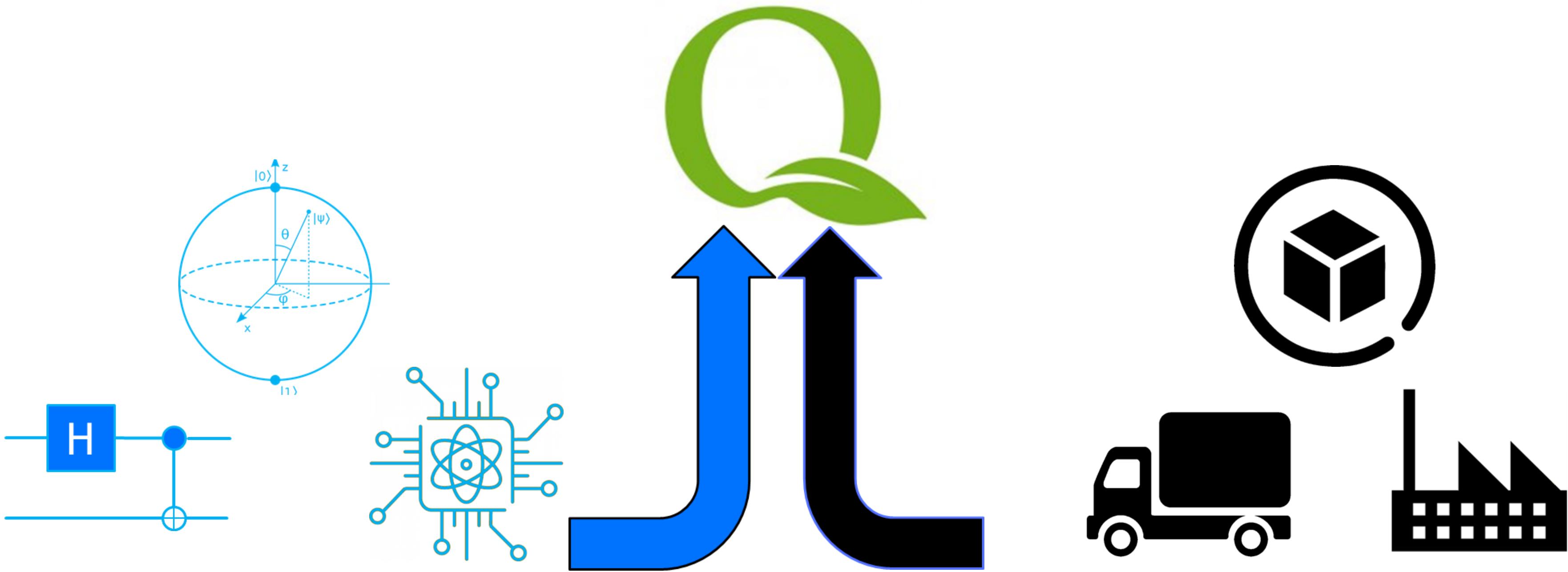
**Classical computing will not be able
to solve these problems optimally**



QUantum Enabled Sustainability

OUR MISSION

Putting the "Q" in the quest for sustainability



OUR OFFERINGS

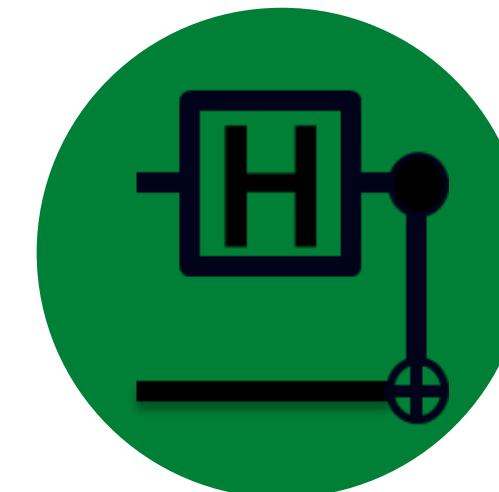
*How we bring quantum
sustainability to our
customers*



Identifying unsustainable
processes



Tailoring our optimization
parameters to the customer's
needs



Optimizing the process using our
quantum algorithms

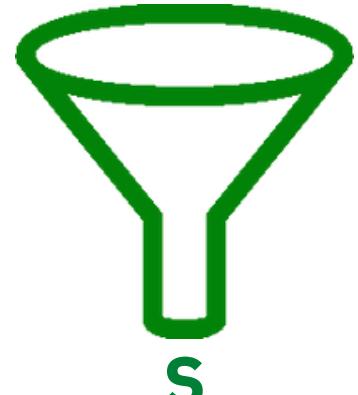


A closer look at one of the use cases we found

Currently: Merck's R&D product portfolio is not optimized for achieving Merck's sustainability and profitability goals

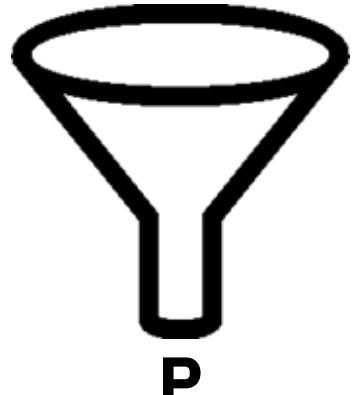
UN 17 sustainability

goals



Revenue

Cost



X

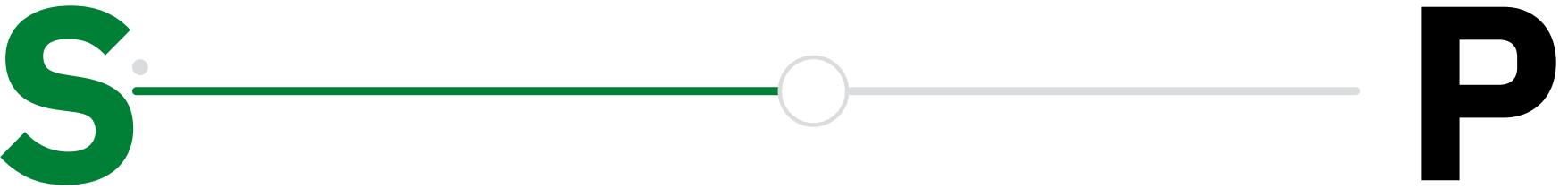
```
This file was generated by QUEST_QAOA_alpha
ENCODING-ISO 8859-1
Problem name: Knapsack_portfolio

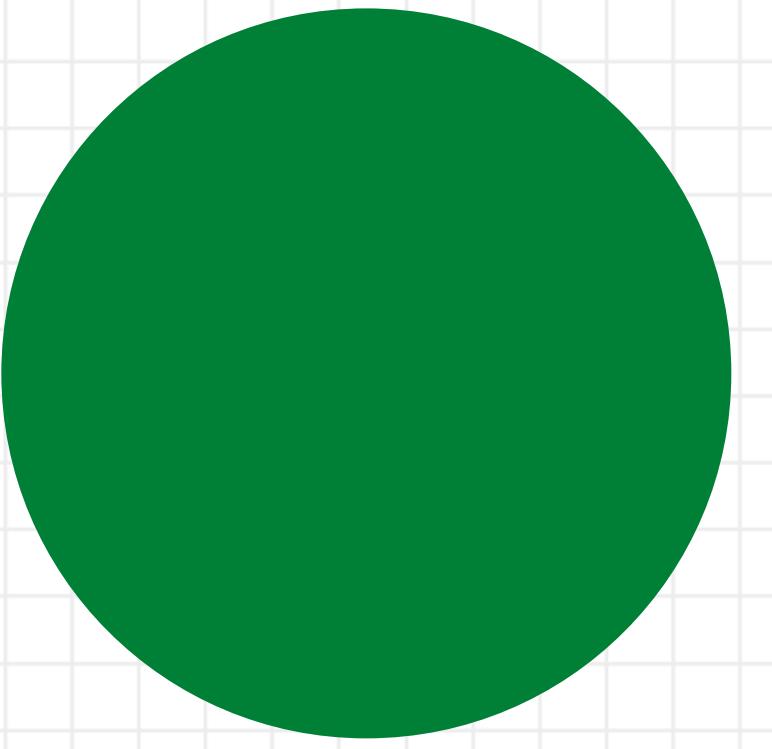
sustainability_score_weight = 0.6
profitability_score_weight = 0.4

Maximize: sum_value
Subject to: Co2_max <= 1706000
items = merck_portfolio_subset_1

Running solution ...
...
Status: Completed

Optimal function value: 97.8
Index of the chosen items: [2,3,46,32,56,43,21,78,34,98,45,63,13,109]
```

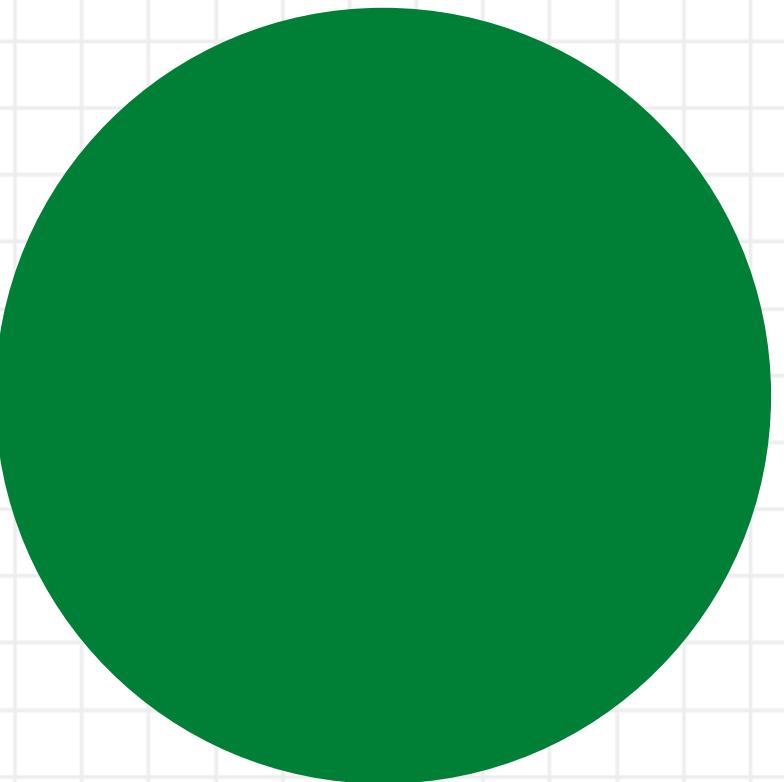




WHO CAN WE HELP?



THE GLOBAL GOALS



Pharmaceutical industry



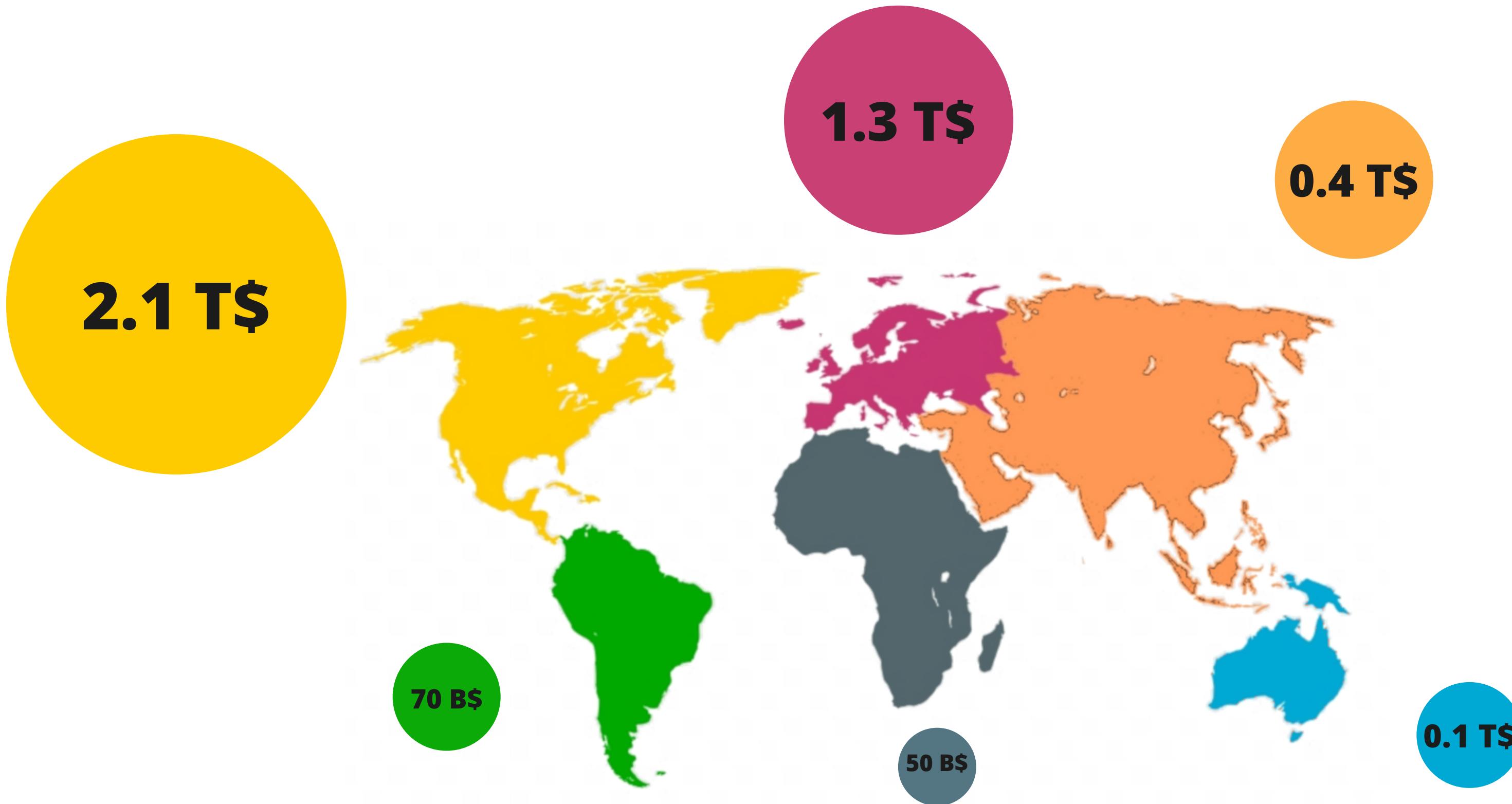
Its innovations lay
the foundation for
universal health and
prosperity

Efforts have been
scientifically driven
with technology as a
prime resource.

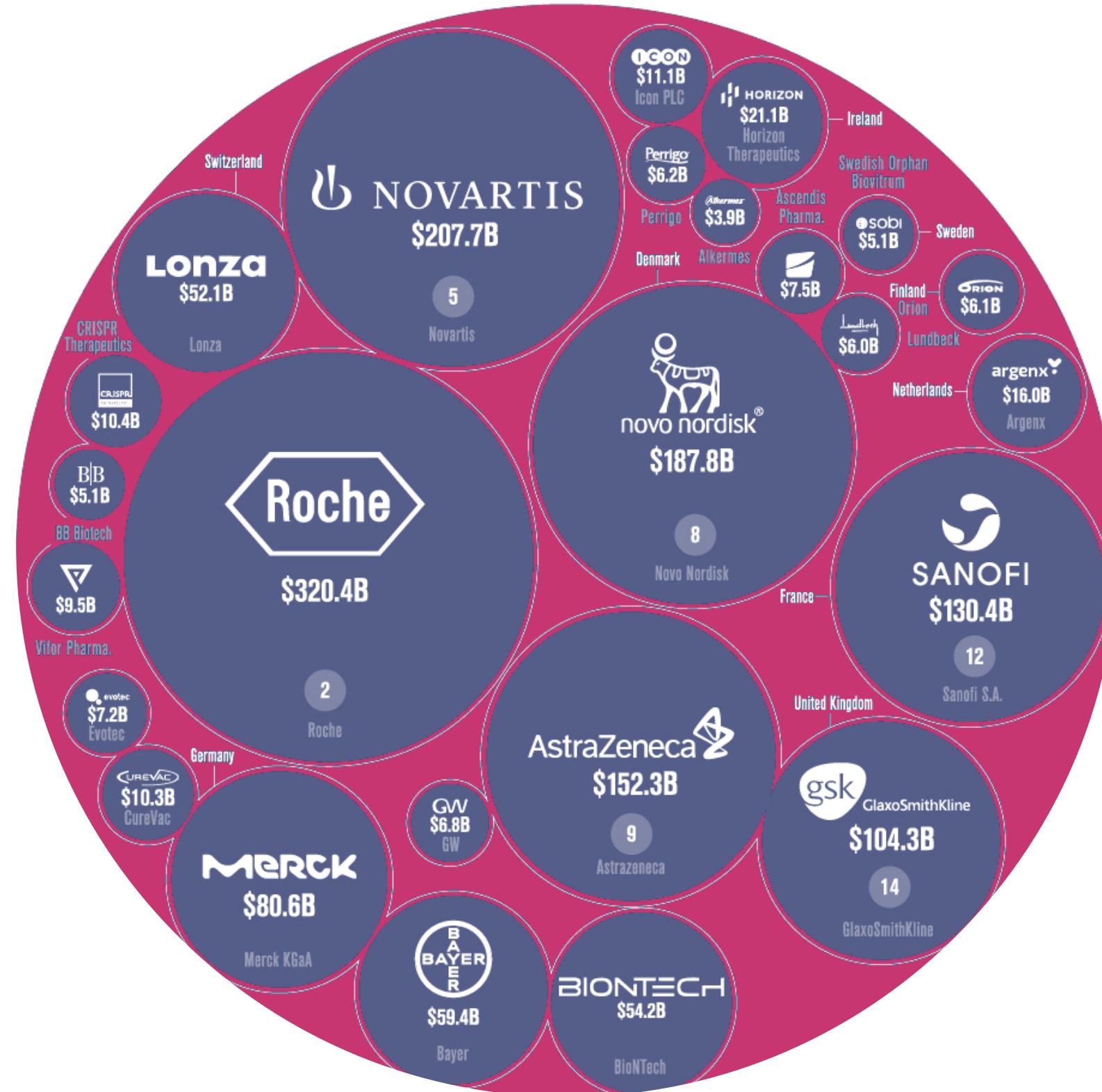


This industry has
been placed as one of
the most "natural"
first applications of
QC

WHERE??



Who?



Germany and Switzerland

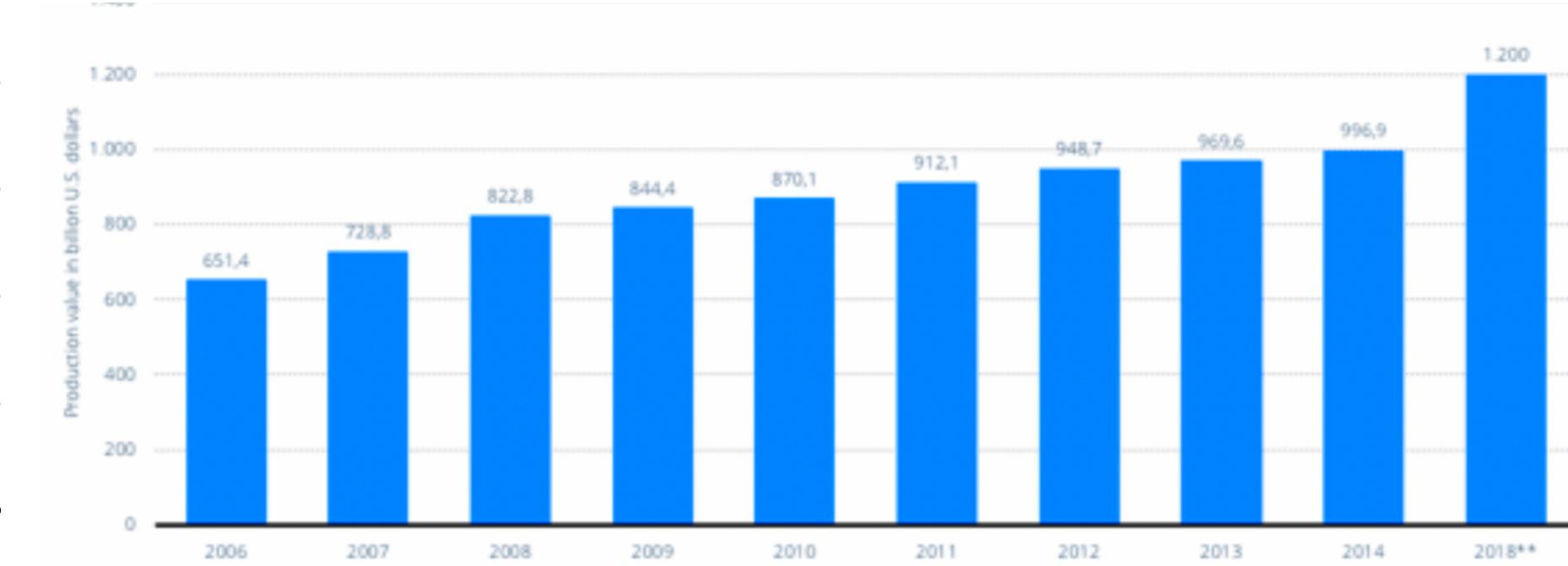
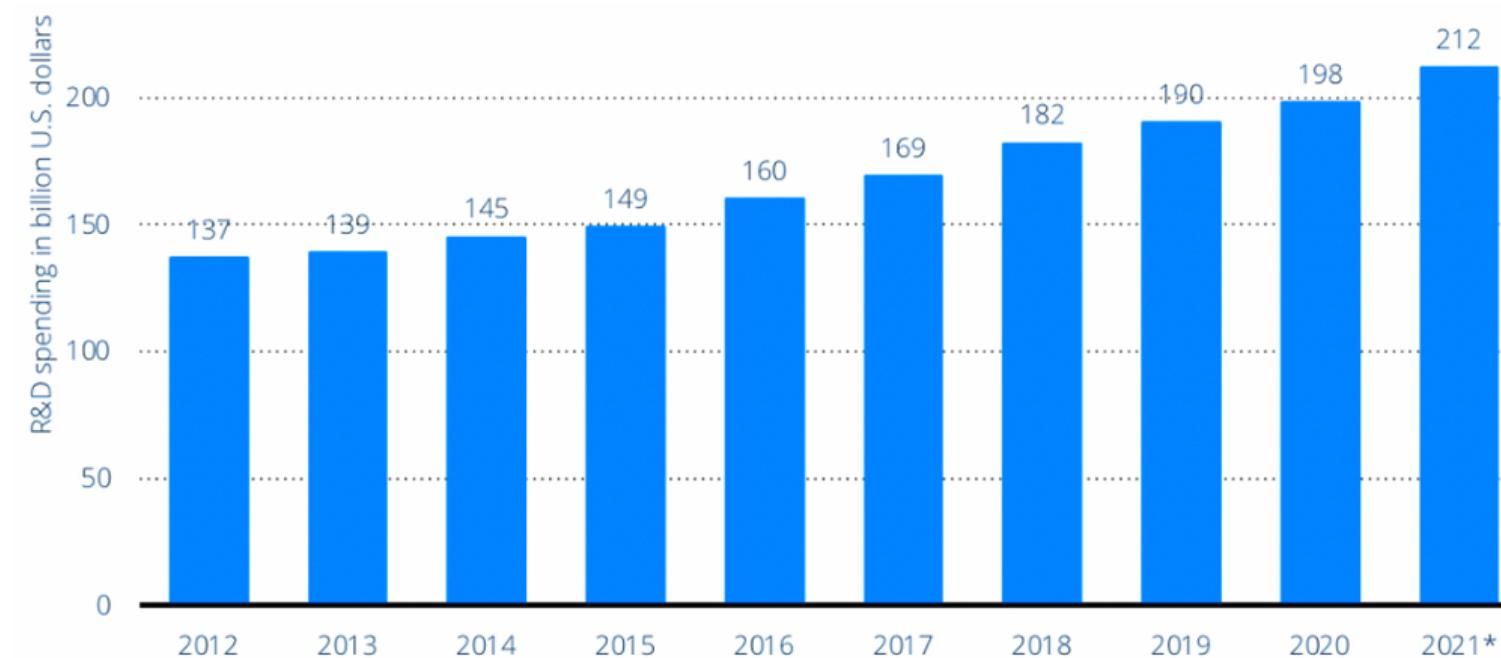
was the world leader in export of pharmaceuticals in 2019

Major Companies

in the pharmaceuticals market include Pfizer; F. Hoffmann-La Roche Ltd; Sanofi; Johnson & Johnson and Merck & Co.

Market size

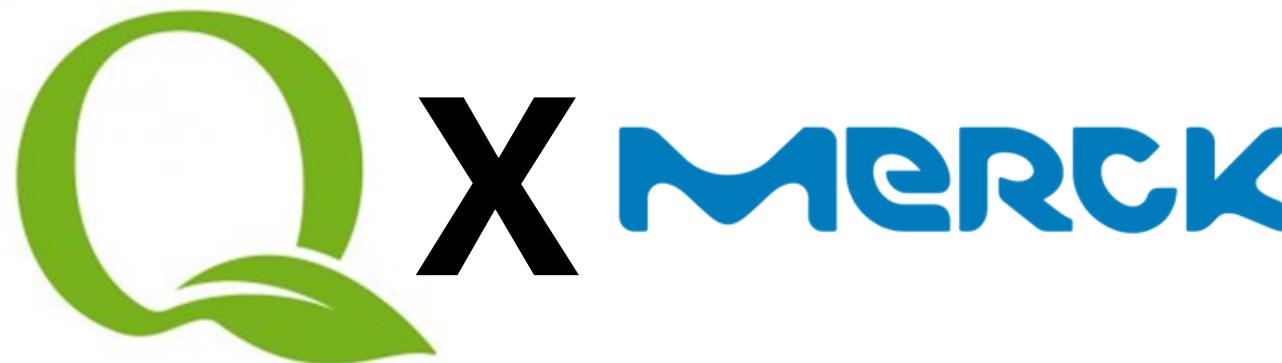
The market of Production and R&D of Pharmaceutical industry is being addressed by QUest's integrated solution
The spending globally has been 212 billion and 1200 million respectively



Graphic: Production and R&D spending in Pharmaceutical Industry

Source: The Pharmaceutical Industry and Global Health - Facts and Figures 2021, *International Federation of Pharmaceutical Manufacturers & Associations*

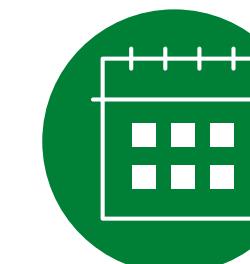
MARKET GROWTH



Projected growth by acquiring new customers through sales and network effect



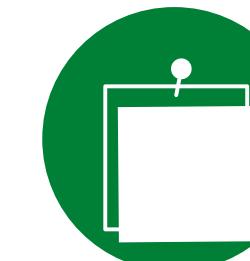
Stakeholders' acceptance of quantum solutions in key processes



First mover advantage



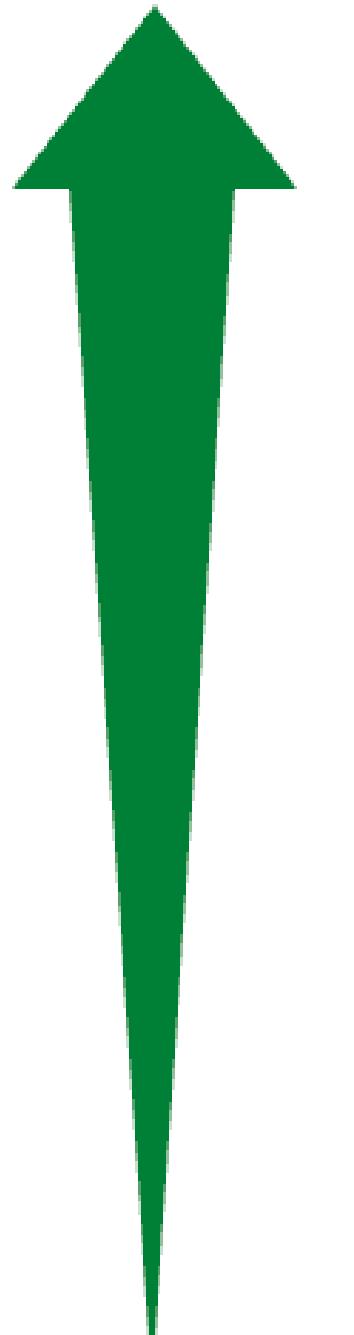
Chemical companies trending towards sustainable products, raw materials and manufacturing process.



Starting market: Merck

Competitor overview

Focus on
Sustainability



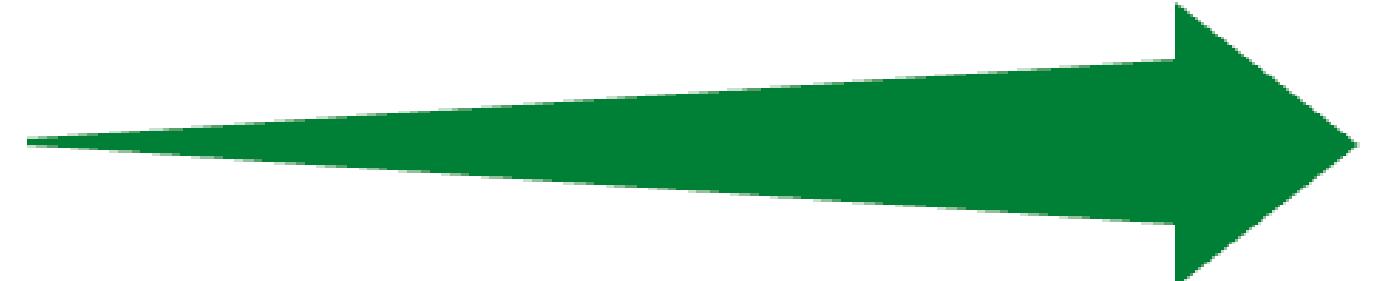
sustainable

BCG

McKinsey
& Company

QuantFi >
Quantum Computing For Finance

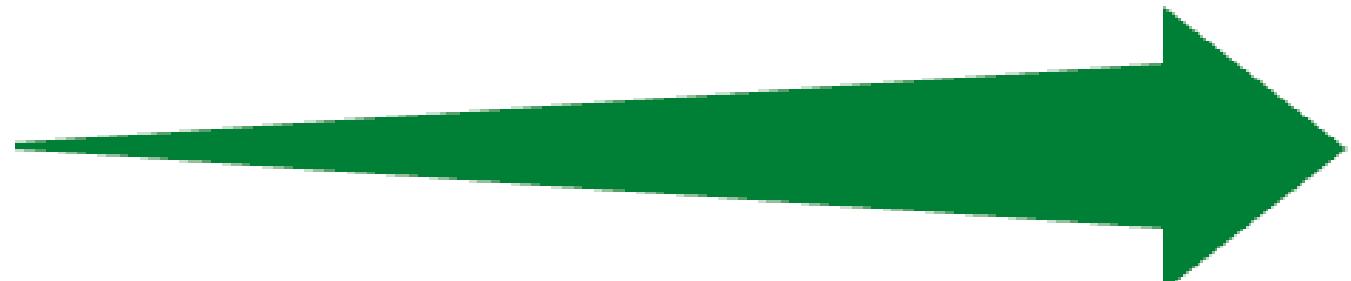
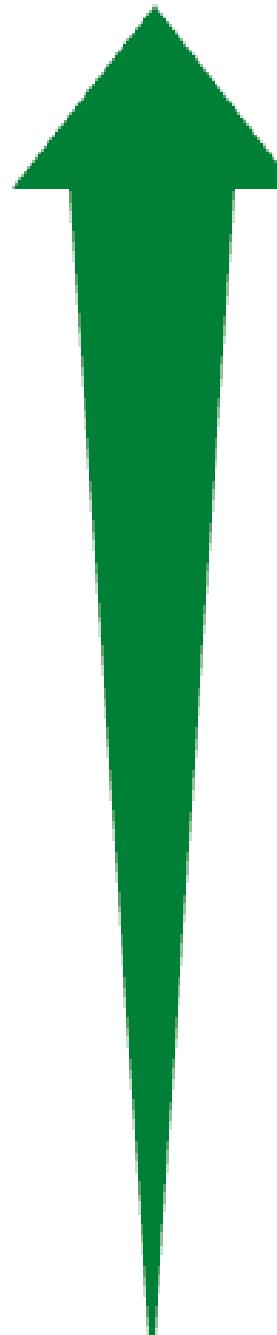
CogniFrame®
The Hybrid Machine Learning Company



Use of quantum Computing

Competitor overview

Focus on
Sustainability



Use of quantum Computing

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