

# Exceeding Quantum Computers in Practicality

## FUJITSU Quantum-Inspired Computing Digital Annealer

New Product

Advanced Technology

Using a digital circuit design inspired by quantum phenomena, the Digital Annealer computational architecture bridges the gap to the quantum world and paves the way for much faster, more efficient solving of today's business problems. The solution is designed to solve large-scale combinatorial optimization problems which are unsolvable using today's classical computers. Fujitsu delivers quantum-inspired Technology and Services with the Digital Annealer offering to advance global business and society.

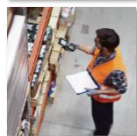
### Digital Annealer Application Cases

Patented

#### Factory / Retail • Logistics



**Optimizing Flow Line in Factory**  
Select optimum shelf arrangement and picking route within factory



**Warehouse Inventory Management**  
Optimize combination of optimum parts and products to meet destination requirements



**Optimizing HR Planning**  
Develop HR planning according to e.g. staff's request/capability/desired schedule, and attendance conditions



**Production Planning Optimization**  
Optimize overall operation schedule of multiple machines doing some tasks which have order relationship

#### Pharmaceutical Search for molecular similarity

Patent pending



Chemical and pharmaceutical laboratories use molecular similarity searching, which partially extracts molecule characteristics to search for new substances and to develop new drugs.

#### Transportation Traffic Optimization



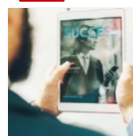
Select non-overlapping distribute routes for vehicles driving to each destination from multiple departure locations

#### Financial Investment Portfolio



Finding the ideal investment allocation to maximize returns by grouping stocks that correlate with price variations, enabling portfolios to be managed with accuracy and reduced risk.

#### Personalized Digital Marketing



Delivering personalized content to existing and prospective customers through engaging and targeted web content, thereby influencing their purchase decisions.

### Digital Annealer Advantages



Digital Annealing Unit (DAU)

- <Scale> Ready to scale up for **8192 bits** problems
- <Connectivity> Easy to use with **total bit coupling**
- <Precision> High precision with **64bit** graduations
- <Stability> Stable operation at room temperature with digital circuits

### Digital Annealer Usage Steps and Service Overview

**1** Apply formulation to customer issues

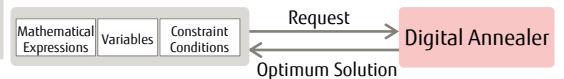


**2** Definition & Formulation



**3** The optimal solution is output after the formula and conditions are input. "formulated formula" is not correct. It is redundant.

※Depending on the problem, the optimum solution may not always come out.



#### Technical Service

Formulation Verification

Deployment Support

Implementation

Operation

Training

Tuning Support

Cloud Service

Premium

Standard

Trial

Academic

On-Premises Service

\* Sections where **Patented** **Patent pending** indicated in this document include patented or Patent pending technology.

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