FUJITSU

# Healthy Living

Stories from our customers

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# 50% reduction in review times

> " Doctors could more than halve the time to access key research, which can validate treatment plans for blood tumors.
>
> **Professor Seiya Imoto**, Human Genome Center, Institute of Medical Science (IMSUT), The University of Tokyo

## Accelerating research for cancer treatment plans with AI at IMSUT

### Challenge

Reduce the time needed to find insight in research documentation across different sources, to help determine specific cancer treatment plans.

### Solution

Fujitsu AI technology extracted literature relating to genomic data, highlighting it for easy use. Prognostic information was selected from graphs and linked to relevant text to present a complete view of the available information.

### Outcomes

- Halved the time to review each gene variation
- Transformed accuracy of patient-specific cancer plans
- Future-proofed the system against bottlenecks by using whole-genome information

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# 85% accuracy in risk diagnosis

> " We are shaping the future of smart medicine and needed a partner to make mental healthcare diagnosis simpler, smarter, and better.
>
> **Dr. Julio Mayol**, Chief Medical & Innovation Officer, Instituto de Investigación Sanitaria (IdISSC)

## AI transforms mental health diagnostics at IdISSC

### Challenge

Reduce the risk of patients developing mental health issues by improving the accuracy and speed of diagnosis.

### Solution

Fujitsu developed HIKARI, a cloud and AI-based solution, which uses algorithms to quickly analyze the mental health risks of thousands of patients to enable early diagnosis and clinical intervention.

### Outcomes

- Delivered 85% accuracy in diagnosing risk of mental health issues
- Saved 20 minutes per patient diagnosis
- Enabled real-time identification of potential health risks

Watch the video

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# Detecting brain aneurysms faster

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> " This will be an exceptional success that will benefit all the partners and, most importantly, patients.
>
> **Dr. Brenton Hamdorf**, Director, Academic and Research Partnerships, Macquarie University

## Improving the analysis of CT scans at Macquarie University

### Challenge

Enable faster and more accurate analysis of CT scans to make the treatment of brain aneurysms more successful.

### Solution

In collaboration with GE Healthcare and Macquarie University, Fujitsu built an AI-enabled diagnostic technology to help doctors track aneurysm growth. The solution uses fluid dynamics to predict the risk of aneurysm rupture.

### Outcomes

- Reduced time to review each scan
- Strengthened detection and tracking of aneurysms
- Ensured smarter decision-making with 3D structural analysis
- Improved surgical intervention via efficient planning, using fluid dynamics

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# Analyzing trillions of data points in just 12 hours

> " We can now revolutionize drug discovery processes, helping develop new drugs for society, including COVID-19 therapeutics, as quickly as possible.

**Keiichi Masuya**, VP and Director, PeptiDream

## Transforming drug discovery at PeptiDream

### Challenge

Reduce the time needed for peptide candidate compounds to be produced, streamlining the manufacture of experimental drugs.
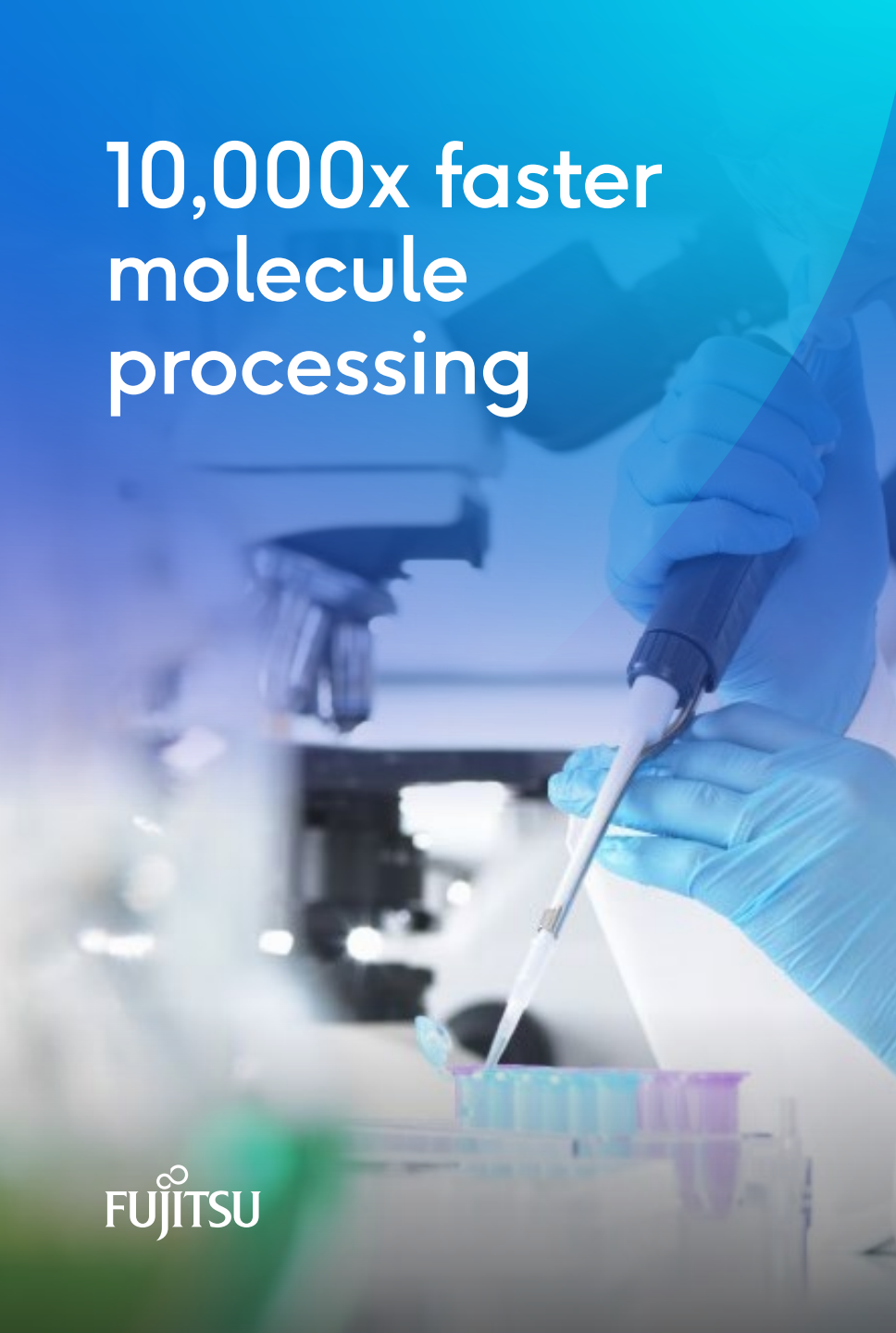
### Solution

Fujitsu's Digital Annealer enabled high accuracy prediction of drug discovery indices, while accelerating the search for confirmation of candidate compounds, improving drug development processes.

### Outcomes

- Contributed to early development of COVID-19 therapeutics
- Combined research data and simulation technology, creating a practical platform
- Streamlined, transformed, and accelerated the speed of new drug development

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# 10,000x faster molecule processing

> " Our expertise in chemistry and machine learning, combined with Fujitsu's technology and experience, means we can identify viable molecules quickly.
>
> **Shahar Keinan**, CEO & Founder, Polaris$^{qb}$

## Harnessing the power of quantum-inspired computing with Polaris$^{qb}$

### Challenge

Accelerate the drug discovery process to help fight diseases and eliminate traditional, 48-month lead times.

### Solution

Fujitsu co-created a platform combining Fujitsu's Digital Annealer with Polaris$^{qb}$'s quantum and molecular mechanics simulations. This expands the library of searchable data and accelerates process of screening viable molecules.
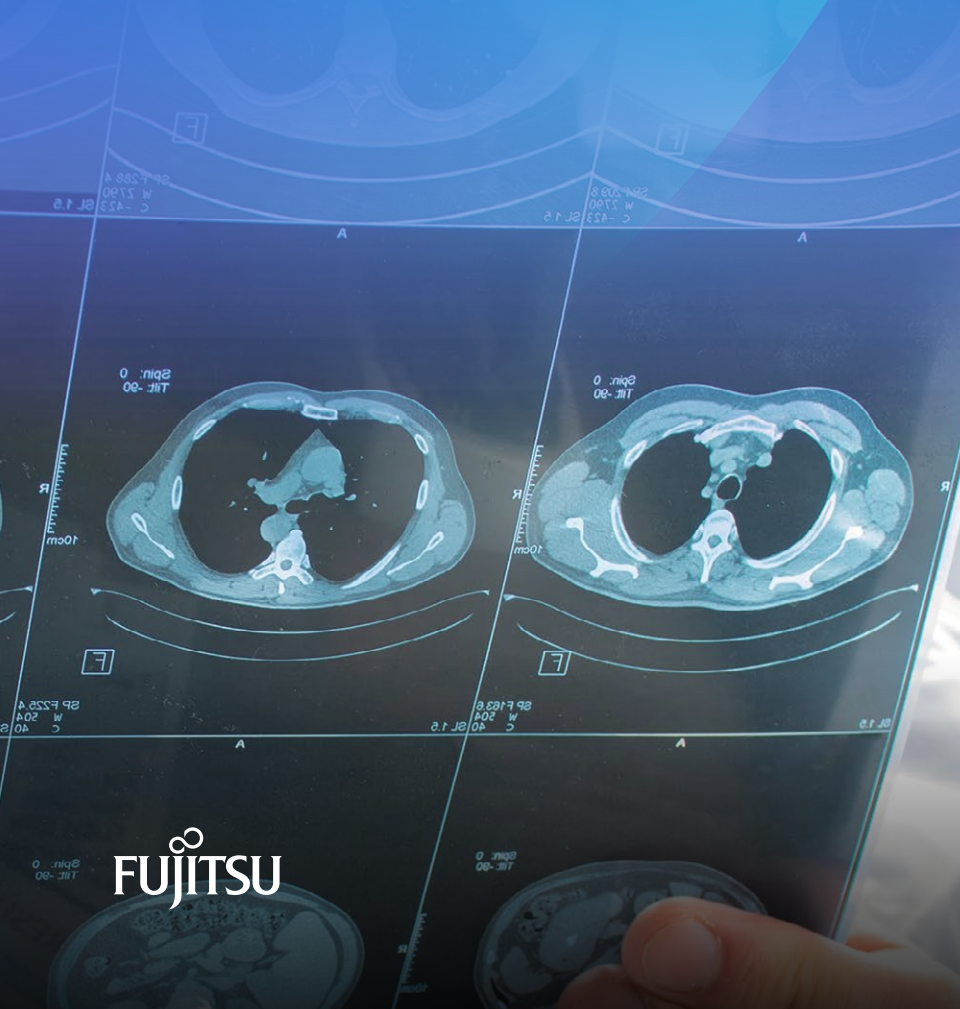
### Outcomes

- Expanded the library of searchable chemical space by increasing the screening of candidate molecules to several trillion

- Accelerated molecule processing by a factor of 10,000

- Reduced time needed to identify, synthesize, and test novel molecule drug leads by 84%

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# Improving analysis and detection of COVID-19

> **"**
> **By more widely deploying our accumulated expertise in image diagnosis through Fujitsu's AI, we can mitigate people's anxieties, and reduce the burden on healthcare providers.**
>
> **Masaharu Shinkai**, Vice-Principal, Tokyo Shinagawa Hospital

## Supporting faster and more precise diagnosis at Shinagawa Hospital

### Challenge

Make knowledge and expertise, related to chest CT image diagnosis, more widely available to help the early diagnosis of COVID-19.

### Solution

The hospital used Fujitsu's new AI technology to support faster and more accurate chest image diagnosis to indicate the likelihood of COVID-19 infection.

### Outcomes

- Shortened the time required to visually check hundreds of CT images

- Reduced strain on overworked physicians, improving their wellbeing

- Helped ensure the early isolation and treatment of infected patients

- Enabled non-specialists to perform diagnostic imaging, improving efficiency

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# 80% OPEX reduction

> " The money we save provides an improved, worry-free environment for senior citizens to live in.
>
> **Yasufumi Shimoyama**, Secretary, White Hat House

## Ensuring residents' safety at White Hat House

### Challenge

Ensure round-the-clock protection of residents in a cost-efficient way, while respecting residents' privacy, and enabling an immediate response in case of emergency.

### Solution

FUJITSU IoT Solution UBIQUITOUSWARE Remote Monitoring Station was installed in residents' rooms to monitor sound. If abnormalities are detected, the resident receives a phone call from a nurse at a 24/7 call center.

### Outcomes

- Reduced cost by 80% as acoustic sensors reduce facility overheads
- Protected residents' privacy as the system only analyzes sounds inside rooms
- Assured safety of residents via an alert system when sensors detect anomalous sounds

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# FUJITSU