

BC PLATFORMS FROM DATA TO HEALTH

Eugene Satoshi Takagi
CEO
BC PLATFORMS JAPAN



Pioneers in genomic data management

- BC Platforms is a **healthcare data & bioinformatics software company with over 20 years experience**
- Spin-off from MIT Whitehead Institute (Eric Lander) project and the company founder Timo Kanninen
- Pioneers in data management and analysis software for genetic research
- Focused on handling Genetic data in concert with Phenotypic data since the beginning
- Global operations, with offices in Europe, N. America and Asia-Pacific

BC in BC Platforms stands for Bio Computing





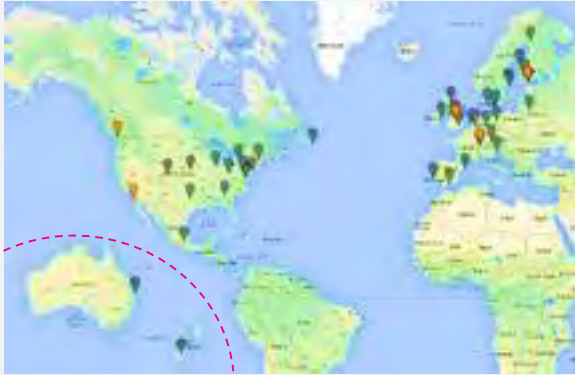
Enabling discovery with the power of a global network

Request a demo

BC|REQUEST – Safe and secure Data Science Platform for Research & Development

DATA ACCESS

Enabled by working with leading genome centers



BC Platforms has established the right connections and deployed solutions in research cohorts and biobanks, in 20+ countries representing numerous populations: USA, Europe, Australia, Latin America

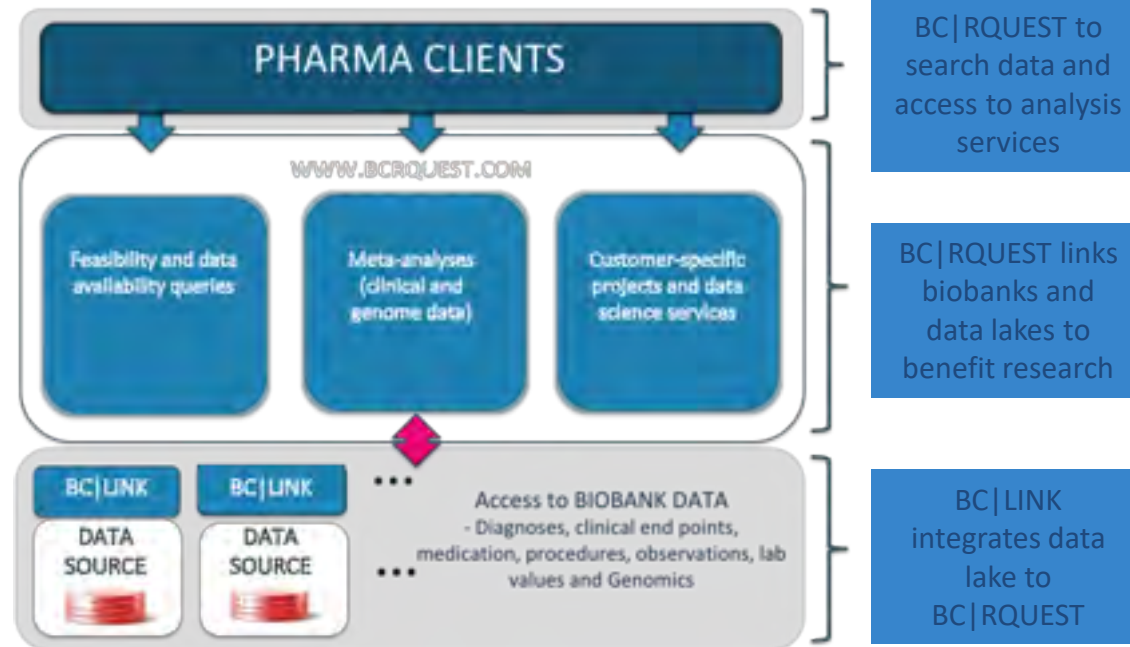
DATA ACCESS TECHNOLOGY

allowing secure and highly efficient data sharing

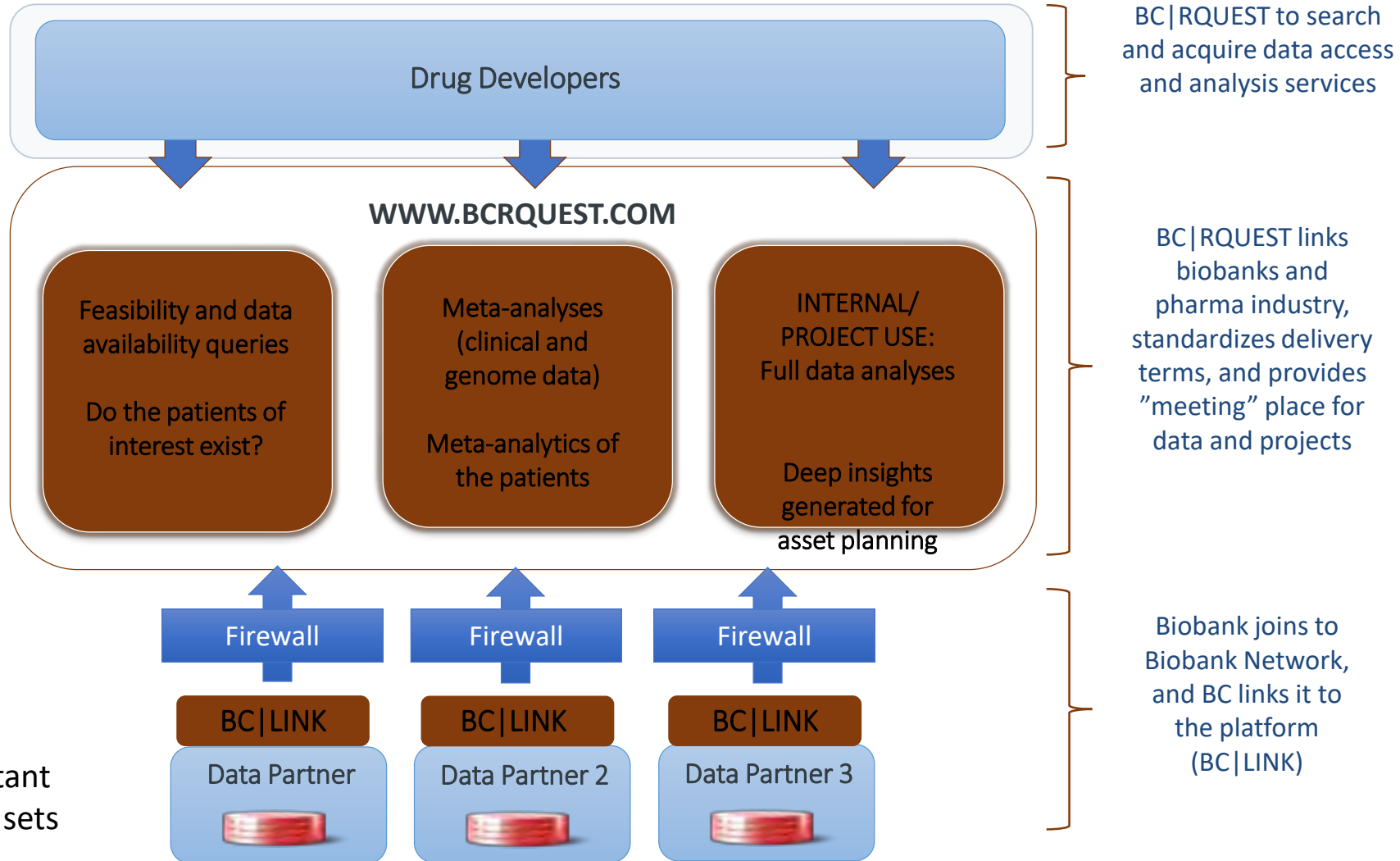


BC|REQUEST

Easy and secure access to global data



BC Platforms' Data Science offering combines the power of our software, BCRQUEST.com, with a global data footprint of clinical + genomic data



BC I RQUEST + BC Platforms Data Partner Network drives value for drug developers across the development lifecycle

	Discovery	Preclinical	Clinical	Post first approval
Genomic differences in patients of interest	High Value	Low Value	Low Value	Low Value
Target identification	High Value	High Value	Low Value	Low Value
Animal model selection	High Value	High Value	Low Value	Low Value
Genomic based side effect identification	High Value	High Value	High Value	High Value
Confirm drug target importance in mechanism of disease	High Value	High Value	Low Value	Low Value
Identify biomarkers of disease risk (progression or severity)	High Value	High Value	High Value	High Value
Patient selection / enrichment / stratification	Low Value	Low Value	High Value	Low Value
Establish effective safety monitoring	Low Value	Low Value	High Value	High Value
Expand disease targets	Low Value	Low Value	High Value	High Value
In Development for 2020 Patient recruitment in clinical trials / post-marketing studies	Low Value	Low Value	High Value	High Value

BC|RQUEST – Powerful, Proprietary Data Access and Analysis

Data Science case examples directly with pharma: Drug discovery & target patient population

Case 1 Market Access – New reimbursement code



RWD and Market Access study for PCSK9 inhibitor drug

New Reimbursement Code

Target is to support Nordic Market Access work for Amgen. Amgen is a leading company in deploying RWD through their Medical Affairs operations. With the study Amgen aims to evaluate the number and characteristics of target patients and specified predictive factors of disease severity and have better clinical outcomes for these specific patients in the future.

Boost Sales: New reimbursement code will increase sales in the Nordics

Data sources in BCRQUEST.com

- Turku University Hospital (Finland) database – 1.5 million citizens
- Estonian Biobank

Phase 1 (on-going project):

- Statistical analysis of clinical data (VSSH and Estonia combined)
- Genomic analysis using Estonia data (biomarker development)
- Distributed AI model training (VSSH and Estonia)

Case 2 Target identification and validation in Neurodegenerative Diseases



Drug discovery

Main goal of the program is to find new leads and to confirm initial findings based on other data sources without having to access individual level data

Population Hypotheses

In the project:

- a) Researchers identify novel (LoF) mutations and compare differences in ICD, ATC, SNOMED code distributions and lab values with mutation carriers and controls (PheWAS analysis)
- b) Researchers perform GWAS (genome wide association) studies for novel hits

BC|RQUEST – Powerful, Proprietary Data Access and Analysis

Data Science case example FINNGEN: Target to genotype 10% of the population



5 Million Inhabitants

- Target to combine Finnish National Registry data and produce whole-genome data (genotyping) for 500K Finns
- Project brings together Finnish universities, hospitals and hospital districts, Finland National Institute for Health and Welfare (THL), biobanks, international pharmaceutical companies and hundreds of thousands of Finns

Boosts Research

- Pre-competitive program with 7 pharmaceutical companies involved



- Budget and funding
 - €60M initiative with initial budget
- Data analytics
 - Various data analyses combining clinical and genomic data
 - Special interest for loss of functional (LoF) variants
- BC Platforms' roles
 - BC|RQUEST for pharma and biobank partners
 - Clinical end-point management tool

BC | RQUEST

Discussion

**Problem of Japan today
And our approach**

No Big pharma

No active Biobank

No sequenced data

**Unique structural problem
of
Japanese Biobanks**

Privacy

YES BUT,,,,,

Law

Who take final responsibility?

Medical record system

University IT System

How we will approach?

Unique health check system
健康保険組合

20M medical check record

Unique Private data holders

20M Medical Data

Collaborate with big companies

Microsoft Japan Etc.

**Work with DTC company
1/50 Global Market**

Work with Academia

Kyoto University
Riken

**Make Original Data Pool
Targeting few million**

**Collaborate with companies
Having unique isolated data**

**Add new coming
sequenced data**

Enhance Data Analysis Activity

データの楽市楽座

Link Japanese pool and Global in Future