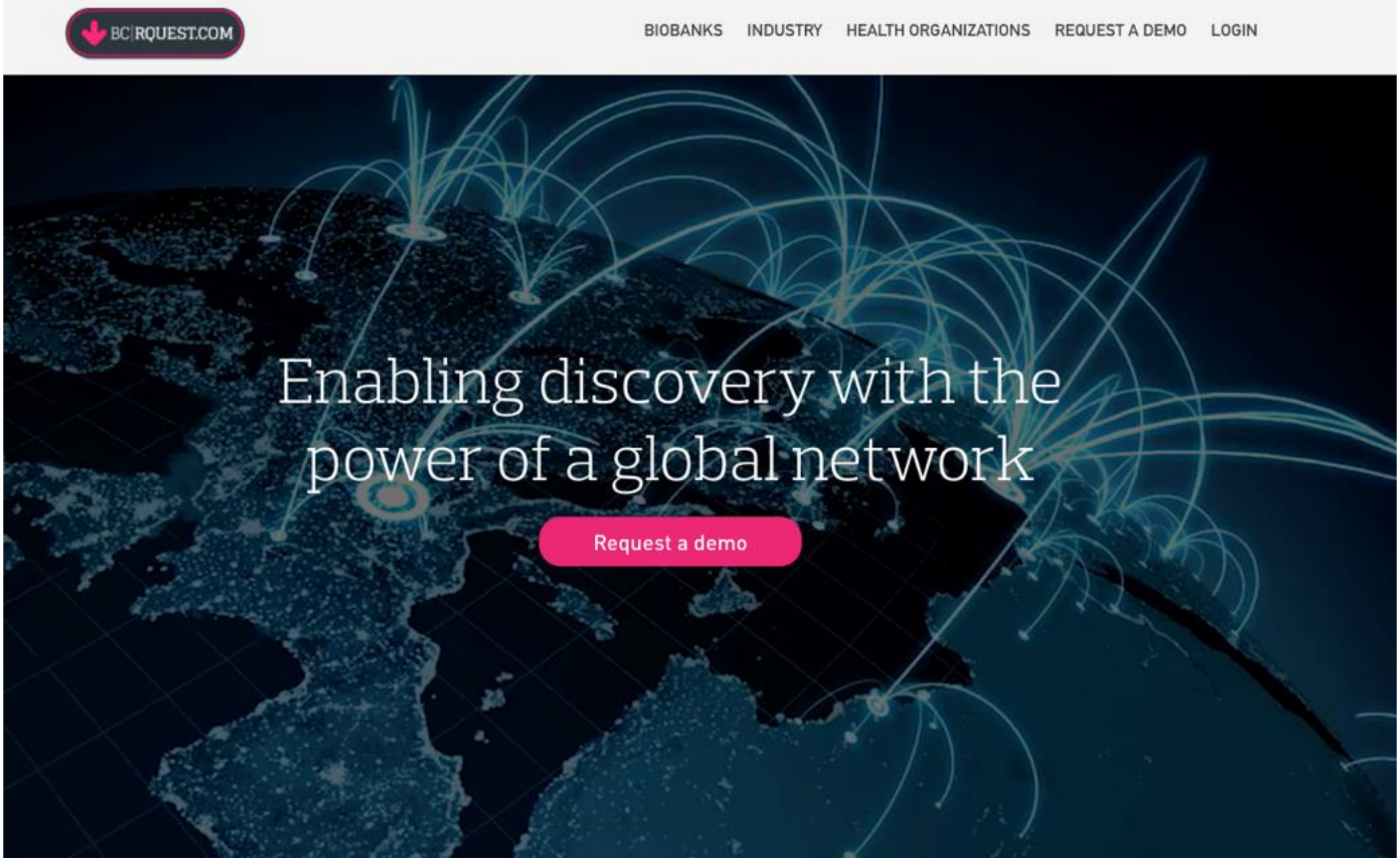
BC PLATFORMS FROM DATA TO HEALTH

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

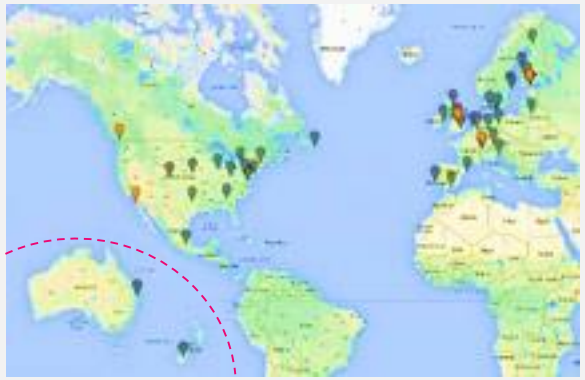
BC in BC Platforms stands for Bio Computing



BC Platforms

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

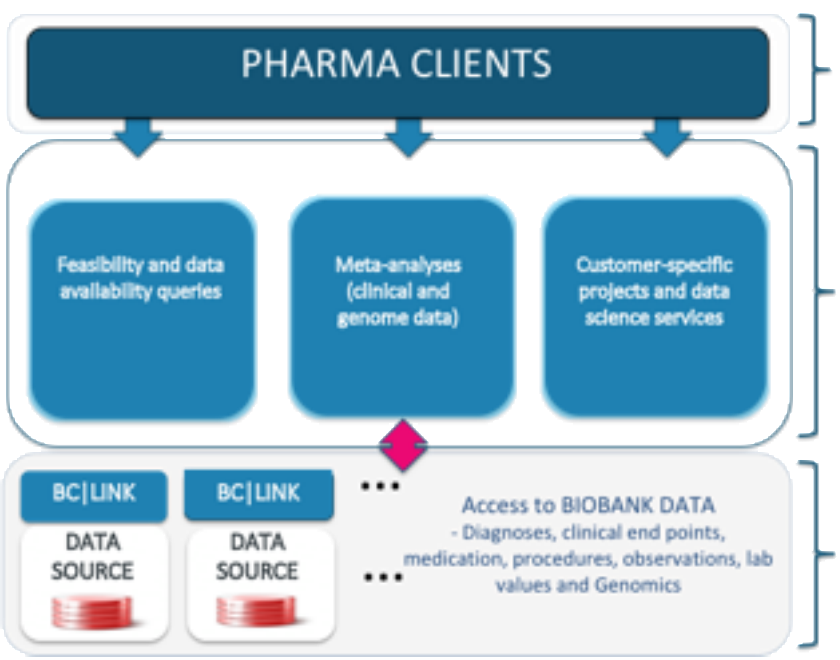
DATA ACCESS
Enabled by working with leading genome centers



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|RQUEST
Easy and secure access to global data

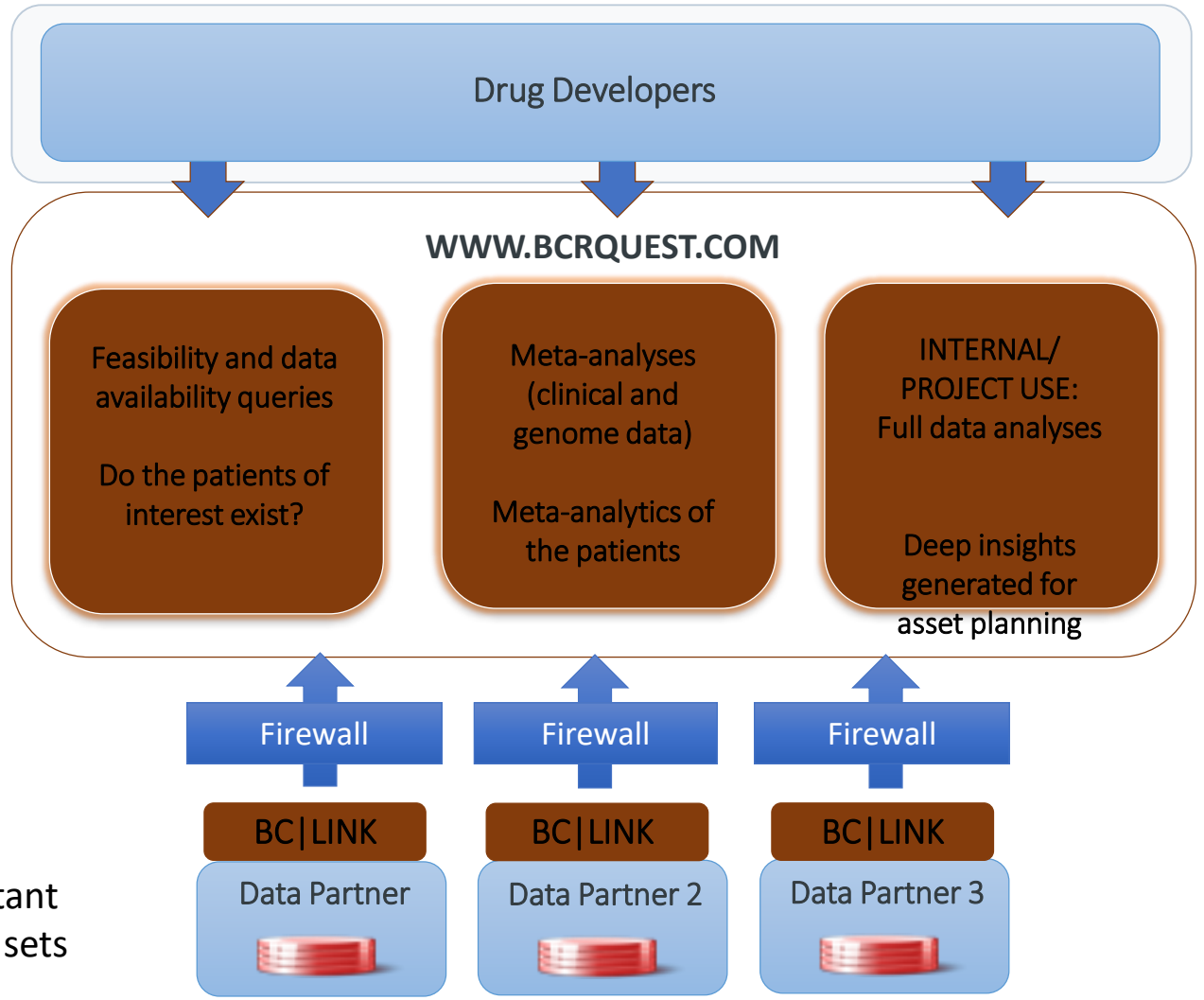


BC|RQUEST to search data and access to analysis services

BC|RQUEST links biobanks and data lakes to benefit research

BC|LINK integrates data lake to BC|RQUEST

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



BC|RQUEST to search and acquire data access and analysis services

BC|RQUEST links biobanks and pharma industry, standardizes delivery terms, and provides "meeting" place for data and projects

Biobank joins to Biobank Network, and BC links it to the platform (BC|LINK)

Secure federated instant access to linked data sets

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				
Target identification				
Animal model selection				
Genomic based side effect identification				
Confirm drug target importance in mechanism of disease				
Identify biomarkers of disease risk (progression or severity)				
Patient selection / enrichment / stratification				
Establish effective safety monitoring				
Expand disease targets				
In Development for 2020 Patient recruitment in clinical trials / post-marketing studies				

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 (VSSHP and Estonia combined)
- Genomic analysis using Estonia data (biomarker development)
- Distributed AI model training (VSSHP 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

FINNGEN

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