Leveraging *Real-World Evidence* with Lifebit REAL

The volume and velocity of Real World Evidence (RWE) makes utilisation of data challenging. With Lifebit REAL you can exploit this wealth of data to generate meaningful insights, enabling you to unlock the power of RWE and stay ahead of the competition.

Lifebit REAL
tom@lifebit.ai

lifebit

Lifebit REAL
Unlocking the power of RWE

Continuous harvesting of scientific sources

- Monitors leading scientific sources ranging from research papers to blog posts by leading academics
- Ingests breaking news articles and stays up-to-date with the latest breakthroughs and releases
- Harvests scientific social media posts to capture opinions and anecdotes
- System searches the entire world wide web on a daily basis to capture additional relevant RWE

Natural Language Processing

- Proprietary & best-in-class NLP algorithms
- Developed by our team of NLP researchers
- Client-specific training of algorithms for ultimate accuracy of results

Active Learning

- Artificial Intelligence feedback loops to ensure system's continuous improvement
- User feedback is fed into the system to learn from previous iterations

Custom Notifications

- Receive alerts & notifications when RWE of particular interest is identified
- Customised alerts to ensure you only receive notifications that merit attention

Cloud Deployed

- System is fully deployed & maintained on Lifebit Cloud
- Secure sign-on & account management to ensure security and keep your insights safe

End-to-End Solution

- REAL's wide range of apps ensure every step of the R&D process is supported, including:
    - Understanding disease occurrence
    - Identifying all drugs in development that treat the disease
    - Identifying novel disease targets

Secure Federated Integrations

- Supplement RWE with your internal data
- Patented federated technology links your proprietary data to Lifebit REAL - without data ever leaving your own secure environment

Disease Surveillance

Lifebit REAL helps you monitor and track diseases of interest to ensure you have visibility of the diseases that matter and know which diseases to target and when. This enables you to prioritise your drug pipeline by making investments in the most promising drugs, for the right disease, at the right time.

Lifebit REAL informs you when a disease spreads geographically, undergoes a zoonotic event, or when a novel virus, such as COVID-19, is identified.

✓ **Ingest** - Real-time harvesting of millions of articles from scientific sources, the world wide web, social media, news outlets and other open sources.

✓ **Extract** - Harvested articles are input into Lifebit's proprietary Artificial Intelligence and NLP algorithms, allowing you to extract relevant disease and outbreak mentions.

✓ **Report** - Compile disease and outbreak information to reveal insights into infectious disease spread. Custom email alerts notify user of transboundary and emerging agents.

✓ **Respond** - Pharmaceutical companies are provided with actionable information that can be used to make data-driven decisions and ensure R&D strategies are aligned with real-world situations.

medRχiv PubMed bioRχiv — *Scientific sources*

CDC Public Health England World Health Organization oie — *Public health organisations*

BBC THE CONVERSATION CNN — *News Outlets*

Twitter reddit BLOG — *Social Media*

lifebit **REAL**

Drug Identification

Lifebit REAL identifies all drugs, compounds and biologics currently in pre-clinical or clinical development for any therapeutic area. This enables you to identify and acquire or in-license the most promising assets earlier, strengthening your drug pipeline. In addition, Lifebit REAL learns from scientific sources, the mechanism of action and target for drugs and compounds, opening the prospect for repurposing or novel formulations.
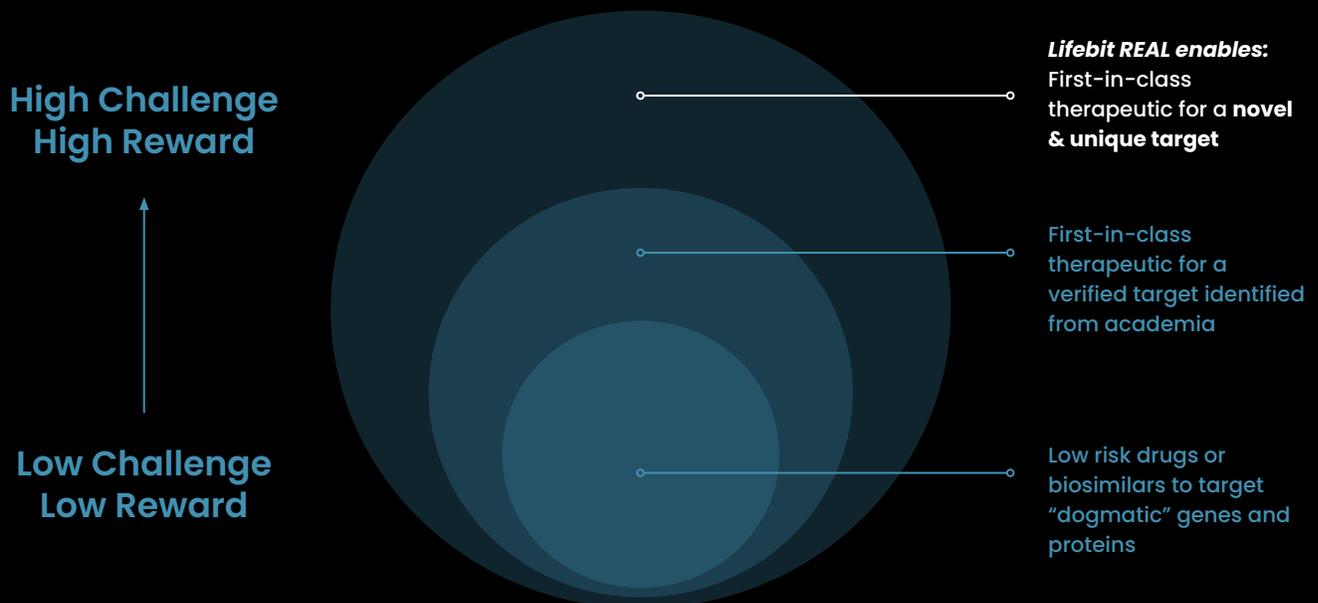
- ✓ **Discover** - Organisations (pharmaceutical, biotech or research institutes) developing treatments for your therapeutic area of interest, unlocking M&A and in-licensing opportunities

- ✓ **Unlock** - Drugs and compounds that modulate/target a gene or pathway which can be repurposed for your therapeutic area of interest

- ✓ **Access** - Clinical trial information for any clinical stage drug or compound assets of interest
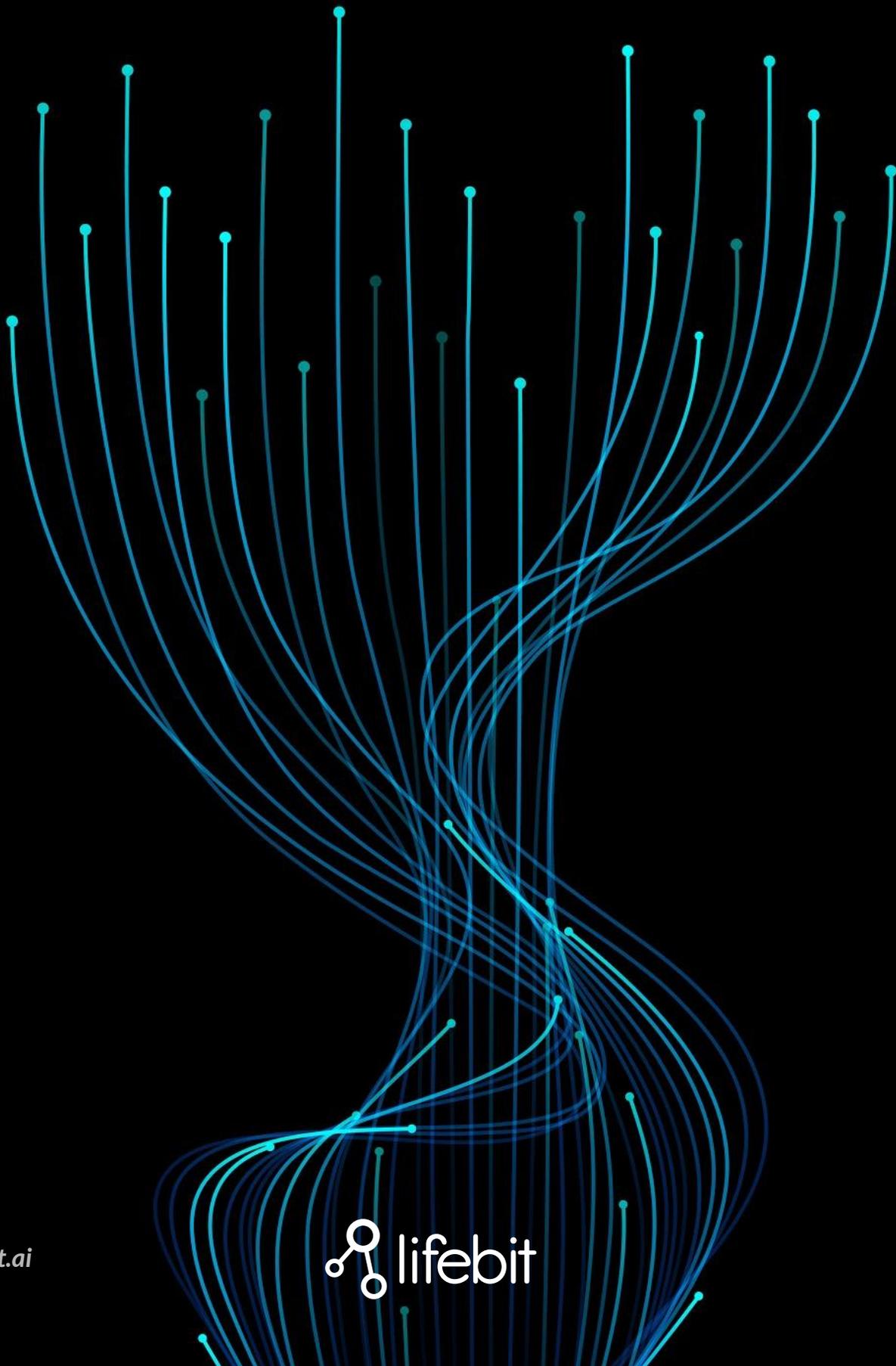
Target Discovery

Lifebit REAL assists researchers by identifying and predicting unprecedented drug targets for your therapeutic area to enable first-in-class drugs to be developed. REAL analyses both open access and proprietary gene expression datasets for each therapeutic area. From these gene expression datasets, REAL explores the core genes that are dysregulated on a tissue and cell-type specific basis. Scientific literature sources are then utilised to identify novel upstream regulators and downstream effectors of the core genes known to be important for the disease state. Finally, REAL validates and scores identified targets by exploiting additional GWAS, toxicity and tissue expression datasets.

✓ **Explore** - Explore genes & proteins important for driving the disease state in single cells to understand cell-type specific signatures

✓ **Identify** - Identify cell-type specific relationships between genes and proteins to Identify novel pathways and upstream regulators of genes

✓ **Validate** - Validate and prioritise targets by mining omics datasets, which provides your team with **better targets** - not just more targets

**High Challenge
High Reward**

**Low Challenge
Low Reward**

Lifebit REAL enables:
First-in-class therapeutic for a **novel & unique target**

First-in-class therapeutic for a verified target identified from academia

Low risk drugs or biosimilars to target "dogmatic" genes and proteins