



# Computing the Future of Medicine

Final Results - y/e 31 January 2022

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#### Forward looking statement

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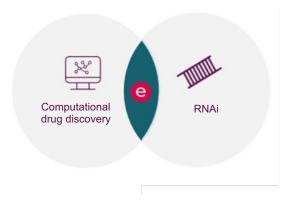
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## **Company Overview**

Driving innovation at the intersection of AI and precision medicine

### **Our mission:**

Integrating computational power and biology to discover life-transforming medicines



Network biology pioneers. Unparalleled ability to model human biology and interrogate its complexity

Reproducible 100-1000x higher hit rate

Computational platform validated experimentally and through partnerships

**Proprietary RNA interference platform** 

39 FTE
Multi-disciplinary team

>300M
Data points

**SIRNA**Gene silencing platform

## **Business Model**

Adaptable, hybrid business model to maximise the impact of our technologies



### Enabling ETX in silico Discovery Engine

#### Discovery

Discovery
Collaborations
Monetising
Computational
Platform











- ✓ Small molecule discovery
- ✓ Target ID
- ✓ Mechanistic insights
- ✓ Genetic support

#### In-house RNAi

Proprietary RNAi
Pipeline
Building long-term
value

- ✓ Liver centric
- Complex diseases and systems biology approaches on rare diseases
- Unexplored target genes

### Strategic RNAi

Strategic RNAi
Partnerships
Rapid generation of
differentiated candidates

- Leveraging ETX computational platform
- ✓ Proprietary hhepatocyte knowledge graph
- ✓ Novel targets
- Proprietary GalNAc-siRNA gene silencing technology

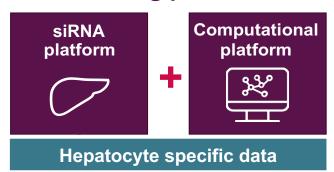
## **Business Model & Value Inflection Points**

**Target** 

nomination

Near term opportunities for value realisation

#### **ETX** enabling platforms



**Technology-driven partnerships**Hepatocyte-specific data & computational tools provide **key differentiator** 



2019 30 targets \$175M + \$357.5M



milestones per target

2019 **\$400M + \$200M** milestones



2021 ALS **\$25M + \$694M** Potential royalties

## Benevolent<sup>a</sup> AstraZeneca

2019 CKD and IPF Undisclosed financials

### **ETX** therapeutic pipeline



#### In-house pipeline deals

- Opportunity for early partnerships and/or co-development deals
- Scope to prosecute internal programmes into the clinic





2016 1 target (LPa) \$35M upfront \$21.5M equity \$617M milestones



2019 1 asset (HBV) \$200M upfront \$1.47B milestones

## **Key Progress Highlights**



#### GalNAc-siRNA platform developed

- Proprietary hepatocyte specific RNAi platform developed and benchmarked, showing highly competitive performance
- 11 patent applications filed

#### Hepatocyte-specific Knowledge Graph

- Further data sources added, doubling the number of interactions captured
- Primary hepatocyte assay development near completion

#### Al driven siRNA design

- Developed proprietary algorithms for optimised siRNA sequence and construct design
- Ultimately goal to minimise wet lab screening

#### **Hepatocyte targets**

- Pre-clinical evaluation commenced on two novel gene targets
- Additional targets being assessed in validation studies
- Exploration of novel siRNA uses including targeting of non-coding genes



#### **New Immuno-oncology collaboration**



- Partnership focused on identifying **novel targets** and intervention strategies in **I/O**
- Upfront, near-term and development milestones

#### Successful IPF collaboration completion

Galápagos •

- Achieved all pre-agreed milestones
- GLPG to determine the future of the identified molecules and targets

## Enhanced target identification capabilities, increased automation and hepatocyte specialisation

- Developed new approaches to target identification
- Migration to cloud-based infrastructure
- Network construction and analysis accelerated from months to hours
- Hepatocyte-specific platform modules developed

## **Financial Highlights**

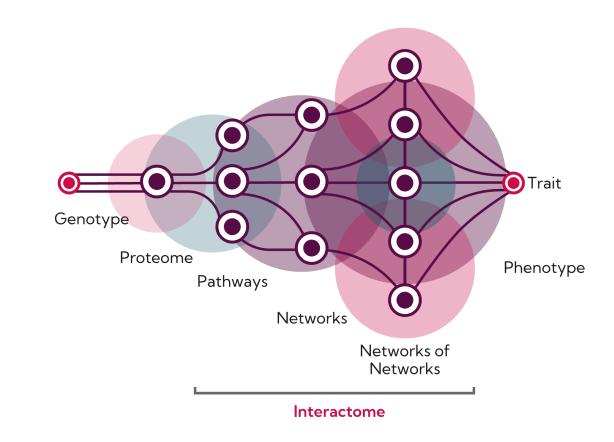
Strengthened financial position following successful equity fund raise in June 2021

- Revenues of £0.5 million (2021: £0.3 million)
- R&D spend of £6.1 million (2021: 2.7 million)
- Operating loss before SBP of £9.1 million (2021 loss: £4.1 million)
- Loss after tax of £8.1 million (2021 loss: £3.7 million)
- £22.5 million before expenses, from placing, subscription and retail offer completed in June 2021
- Cash and short-term investment bank deposits at 31 January 2022 of £26.6 million (2021: £13.0 million)
- R&D tax credit receivable at 31 January 2022 of £1.5 million (31 January 2021: £0.8 million)
- Headcount 35 (excluding Non-Executive Directors) at 31 January 2022 (31 January 2021: 25)

## **Biological Complexity Remains the Biggest Challenge**

Oversimplification of the genotype-phenotype relationship contributes to drug failures

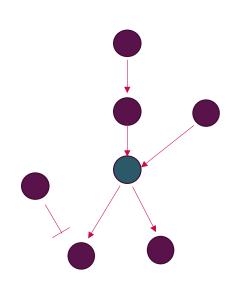
- Phenotype is an emergent property of molecular networks
- Molecular networks impart functional robustness to phenotype
- Networks are the mechanistic bridge between genotype and phenotype



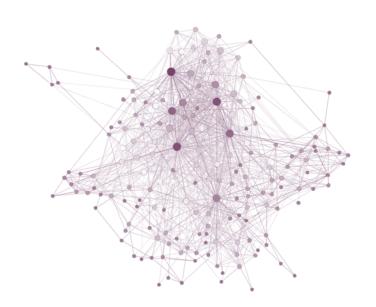
## Our way of Understanding and Modelling Biology

Capturing human complexity is key to the discovery of high-confidence drug candidates

#### Pathway models are too simplistic



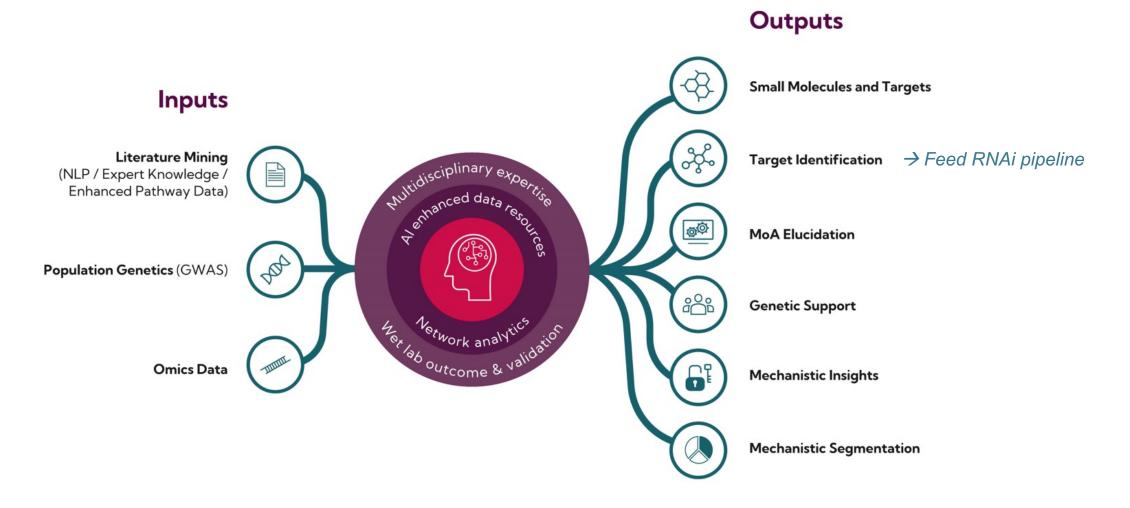
#### **Complexity captured**



ETX proprietary metrics identify non-obvious as well as known mechanisms and targets. Our models enable superior *in silico* hypothesis generation and testing

## ETX in silico Discovery Engine – Inputs & Outputs

Modular computational platform with multiple applications

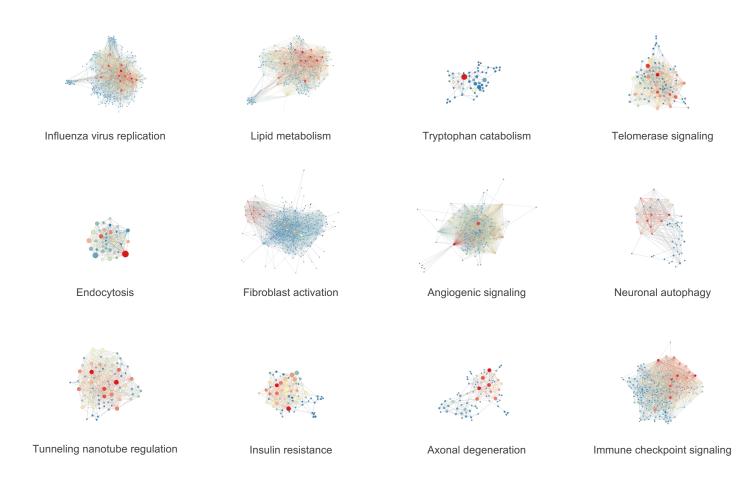


## **Network & Systems Biology – Core Expertise of ETX**

Network models are constructed and interrogated using ETX proprietary computational methods to provide insights into complex diseases and transform drug discovery

## Biological complexity remains the big challenge in drug discovery and development. We strive to address it

- Biological functions are controlled by networks of genes and proteins
- Understanding these networks is key to understanding disease
- Millions of network models of disease processes built to ask therapeutic questions
- Ability to test millions of interventions in silico
- Computational outputs feed directly into translatable laboratory assays



## ETX GalNAc-siRNA Platform Development

Equivalent performance to leading platforms demonstrated

## New proprietary RNAi platform technology for liver gene silencing. Key advantages:

 Enables ETX to selectively silence any gene in hepatocytes



- GalNAc conjugation enables hepatocyte specificity and infrequent, subcutaneous administration
- Accelerated generation of new clinical candidates relative to other modalities

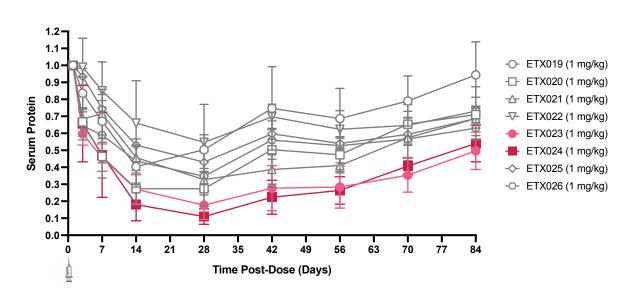
#### **Key Aspects:**

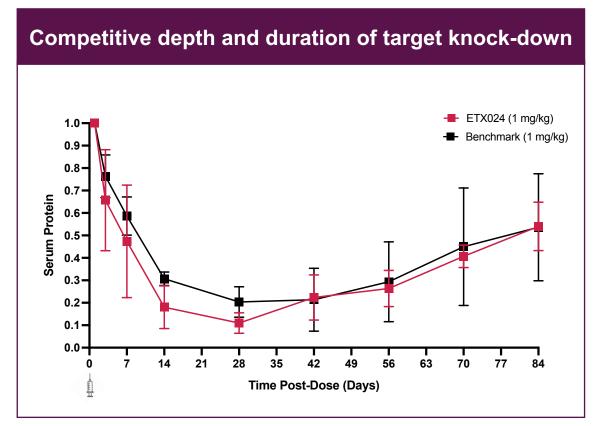
- Robust IP position 11 patent applications filed
- Extensive characterisation completed: 8 different construct designs tested across 3 target genes
- High hurdle for performance and safety benchmarking
- Significant in-house molecular design know-how
- Leveraging our computational target ID capabilities (key differentiator). In-house pipeline upcoming

## ETX GalNAc-siRNA Platform Performance: Headline Non-Human Primate (NHP) Results

Summary NHP target Y knock-down data (serum protein)

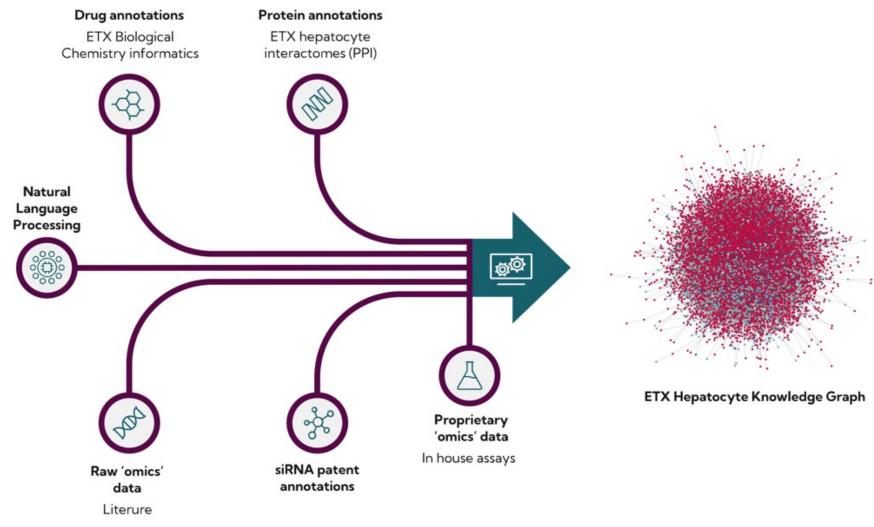
#### Different ETX constructs tested - Target Y





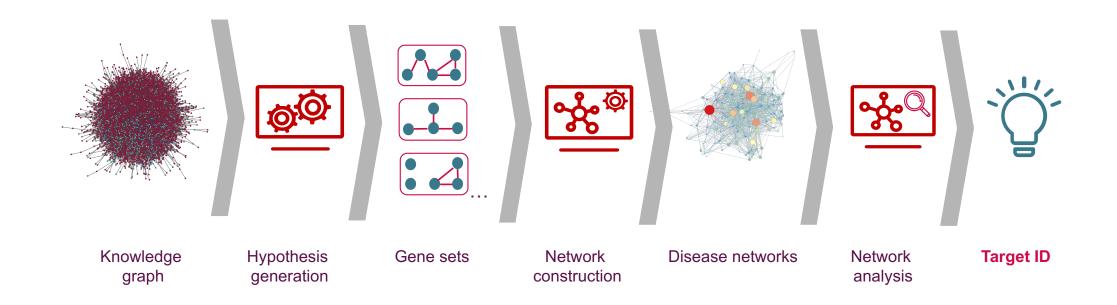
Cynomolgus monkeys, n=3

## Hepatocyte-specific\* Data Strategy and Knowledge Graph



<sup>\*</sup> Reproducible in other cell types

## **Hepatocyte Target Identification**



Target identification is a key limitation in the field and the competitive landscape is highly overlapping.

We leverage our computational platform to identify targets and are uniquely positioned to drive novelty, based on a better understanding of disease biology

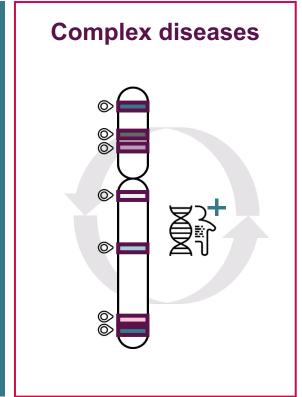
## **Our Upcoming Pipeline: Therapeutic Focus**

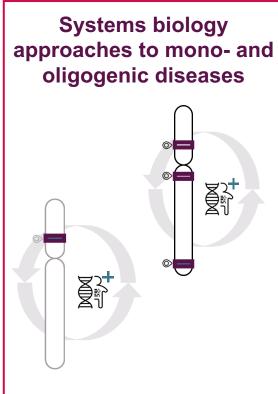
Focus on phenotypic reprogramming with novel interventions

## Targeting hepatocytes opens a multitude of therapeutic areas:

- Focus on safe approaches to phenotypic reprogramming
- **Common diseases**: cardiovascular, diabetes, NASH, obesity, etc.
- We propose a new way of seeing rare disease (liver and extra-hepatic)
- We consider upfront the need to co-exist with and complement standard of care where available

## **Dual therapeutic focus**





## **Next Steps**

Ambitious plans for the year ahead to build on 2021 progress

### Computing the future of medicine

- Advance in-house RNAi pipeline, generating data packages in relevant disease models
- Unveil indications of focus and targets being prosecuted with GalNAc-siRNA platform
- Secure a validating RNAi/liver centric partnership
- Generate proprietary omics hepatocyte data to feed into knowledge graph
- Continue development and innovation around proprietary computational biology platform
- Execute on iTeos computational collaboration in I/O and realise near-term upside
- Continue to attract world-class talent
- Host a Capital Markets day in 2022

## **Experienced Leadership**



Ali Mortazavi
Chief Executive Officer



Alan Whitmore
Chief Scientific Officer



Alison Gallafent Head of IP



Jonny Wray
Chief Technology Officer



**Stephanie Maley** Chief People Officer



Laura Roca-Alonso
Chief Business Officer



Michael Bretherton
Acting Interim Chief Financial Officer

### **Board of Directors**

Ali Mortazavi
Chief Executive Officer

**Professor Trevor Jones CBE** 

Non-Executive Chairman

Michael Bretherton

Non-executive Director CEO Sarossa Plc

#### **Scientific Advisory Board**

Dr Paul Burke

Chair, Former CTO, Pfizer

Professor John Mattick
Former CEO, Genomics England
Professor RNA Biology, UNSW Sydney

**Dr Bill Harte** 

Chief Translational Officer
Case Western Reserve University

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