

A decorative trail of small, light blue particles or dots curves across the top half of the slide, starting from the left and ending on the right side.

# Corporate Presentation

August 2025

CODEXIS<sup>®</sup>

# Forward Looking Statements

These slides contain forward-looking statements that involve risks and uncertainties. These statements relate to future events or our future financial or operational performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results or levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “aim,” “assume,” “contemplate,” “continue,” “design,” “due,” “goal,” “intend,” “positioned,” “seek,” “target,” “on track,” “may,” “will,” “should,” “could,” “would,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “predict,” “potential” or the negative of these terms, and similar expressions and comparable terminology intended to identify forward-looking statements. In addition, forward-looking statements include all statements that are not historical facts including, but not limited to, our expectations regarding the potential revenues of Codexis’ Pharmaceutical BioCatalysis business; potential details and features of the ECO Synthesis® platform such as it being scalable and able to reduce waste, as well as having higher purity, quality and better unit economics than existing methods, and whether it can obviate the need for massive early stage investment required for phosphoramidite chemistry; the level of future demand for RNAi therapeutics and estimated infrastructure investment required to meet such future demand; the future ECO Synthesis® market opportunity, including statements regarding its potential demand, whether and to what extent Codexis is able to capture market share and how many customers will sign revenue generating contracts; Codexis’ potential revenue from such market opportunity, and Codexis’ ability to achieve pilot scale production with the Innovation lab, to engage with GMP scale-up partners, and to secure raw material supply; potential customer uptake and revenue opportunities of Codexis’ RNA ligase program, and the potential cost savings and yield improvements generated from the company’s RNA ligases; Codexis’ considerations for the build-out of a GMP lab, and associated potential revenue stream; timing of news updates regarding the ECO Synthesis® platform and Codexis’ achievement of key milestones; and Codexis’ expectations regarding ability to and timing around reaching profitability. These forward-looking statements represent our estimates and assumptions only as of the date hereof, and, except as required by law, Codexis undertakes no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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# Codexis: Enabling the Manufacture of Complex Therapeutics

CodeEvolver® Platform Delivers Scalable and Sustainable Enzymatic Solutions

## Revenue-Generating Pharma BioCatalysis Solutions

- ✓ Foundational business in small molecule manufacturing and other customized applications
- ✓ Increasingly positive cash contribution driven by ramp-up in newer, higher-margin products

## RNA Manufacturing Solutions

- ✓ **ECO Synthesis® toolbox:** enzymatic synthesis to meet future demand for RNAi therapeutics
  - Double-stranded RNA ligase solutions
  - Complete enzymatic synthesis solutions
- ✓ **Codex® HiCap RNA Polymerase:** global exclusive license to  **aldevron®**

**\$66 Million** Cash / Cash Equivalents  
and Investments as of 6/30/25

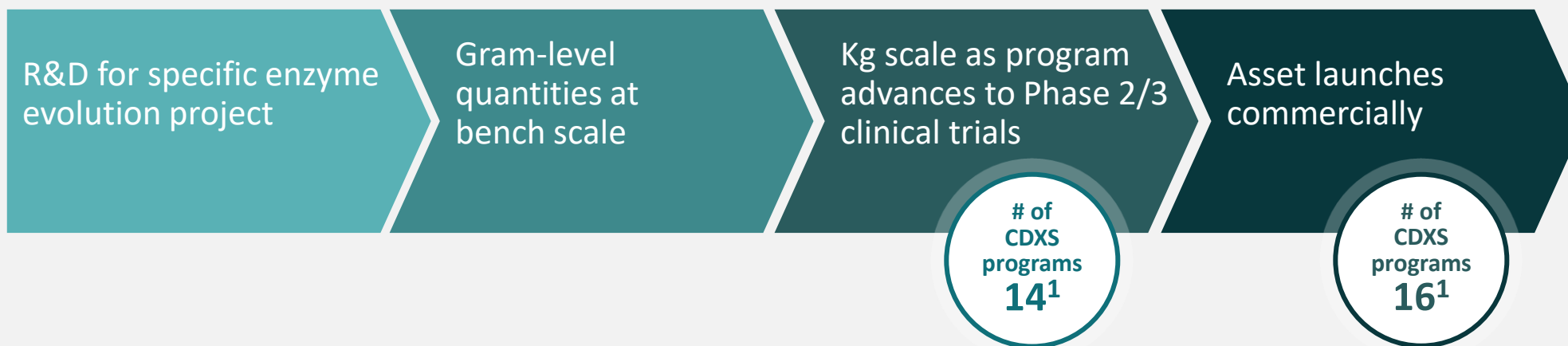
Cash Runway Through Q1 2027

# Revenue Generating Pharma BioCatalysis Solutions

## Two Paths to Revenue

### 1 “Off-the-shelf” Enzyme Solutions from Existing Libraries

### 2 Custom Enzyme Evolution



Strong Customer Engagement; Pipeline of Higher Margin Products Maturing Through 2030

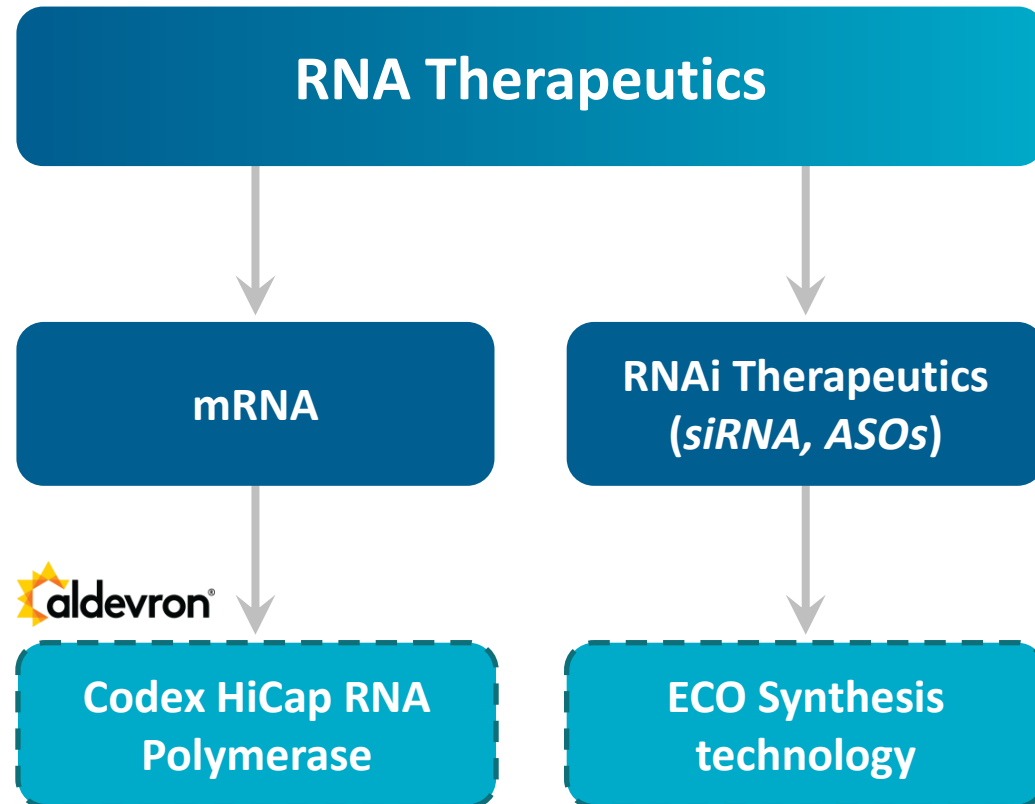
# RNA Manufacturing Solutions: ECO Synthesis Toolbox

Proprietary Platform Enables Enzymatic Synthesis of RNAi Therapeutics



# RNA Therapeutics: a Growing Modality

# RNA Therapeutics Overview



## siRNA: Natural Entry Point for ECO Synthesis Technology

- Short, double-stranded oligonucleotides
- Selective knock-down of disease-related genes via sequence-specific mRNA degradation
- Potential application in additional large disease indications
- Currently manufactured using phosphoramidite chemistry

# Key Benefits of siRNA Therapies

## Improved Patient Compliance

- Durable therapeutic efficacy – sustained effect for 6+ months vs. daily dosing
- In-office administration supports better patient adherence
- Consistent therapeutic efficacy across patient populations minimizes unwanted side effects

## Targeted Gene Silencing

- Acts at genetic level to avoid off-target interactions
- Minimizes need for dose re-optimization
- Bypasses liver metabolism to reduce risk of drug resistance and drug-drug interactions

## Potential to Treat Previously Untreatable Diseases

- Expands druggable universe by acting on mRNA vs. protein (small molecule APIs)
- Genetic precision and control offer potential to treat a wide range of conditions



# 7 Approved siRNA Therapies Across Multiple Indications Today

## Patisiran (2018)

Rare orphan indication

*Population: Hundreds of  
Thousands*

## Givosiran (2019)

Rare orphan indication

*Population: Hundreds of  
Thousands*

## Lumasiran (2020)

Rare orphan indication

*Population: Tens of  
Thousands*

## Inclisiran (2021)

Hypercholesterolemia

*Population: Tens of Millions*

## Vutrisiran (2022)

Rare orphan indications

*Population: Hundreds of  
Thousands*

## Nedosiran (2023)

Rare orphan indication

*Population: Tens of  
Thousands*

## Fitusiran (2025)

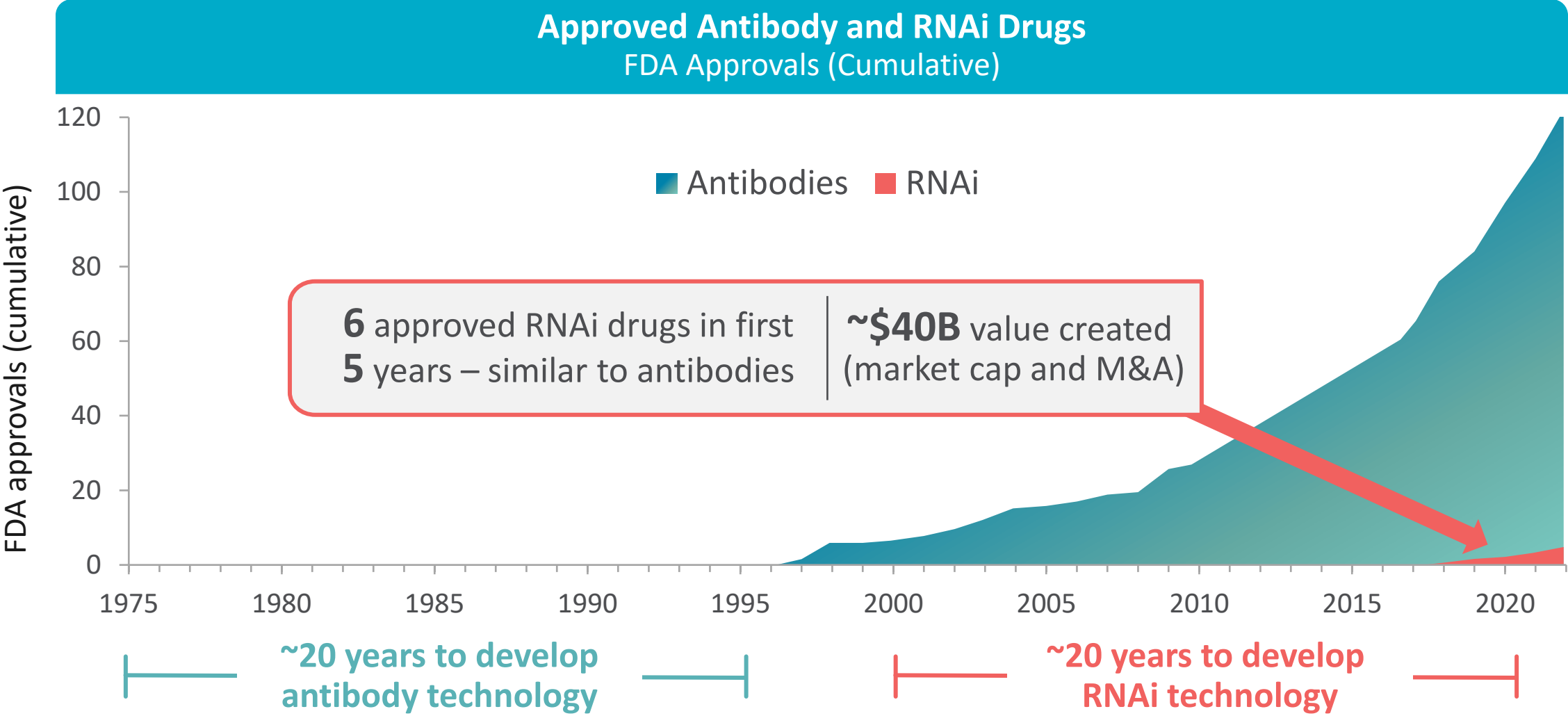
Rare orphan indications

*Population: Tens of  
Thousands*

First siRNA drug approved  
for use in a **large indication**

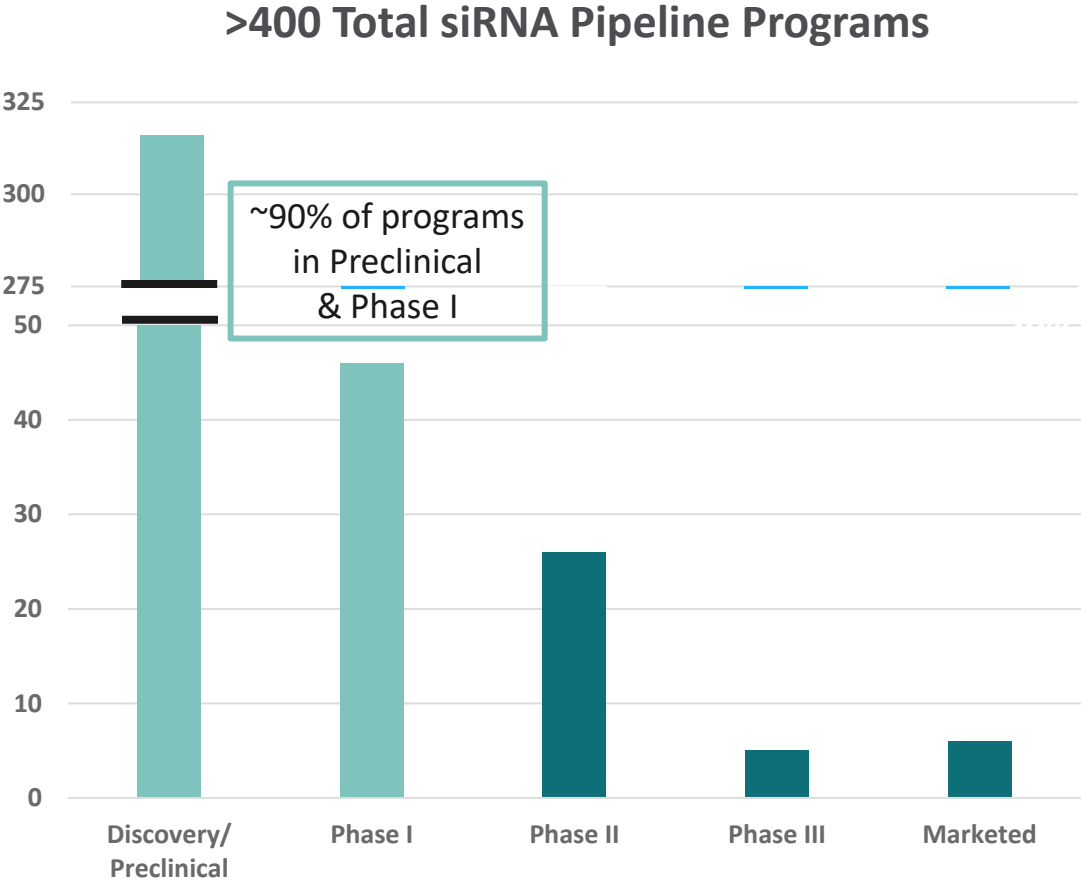
**Label expansion** for additional population  
sub-group in March 2025

# RNAi Therapeutics – the Next Therapeutic Wave



# Challenges in RNA Manufacturing

# Majority of the siRNA Asset Pipeline is Early Stage



## Key Disease Areas in Clinical Development



Cardiovascular



Cancer



Infectious Disease



Endocrine



Central Nervous System

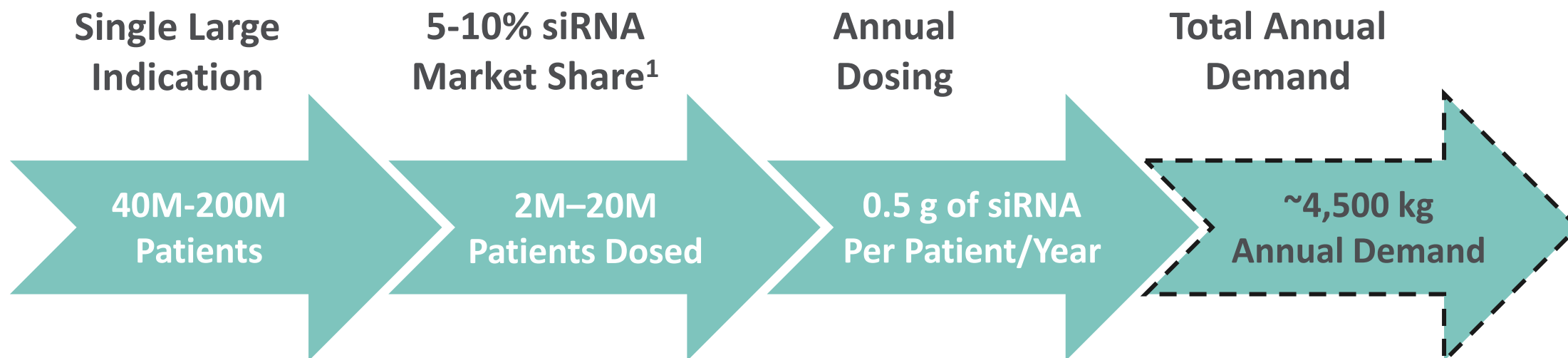


Ocular

Expected Demand for RNAi Therapeutics is on Track to Exceed Today's Manufacturing Capacity

# Case Study: siRNA Demand for a Large Patient Indication

A Single Large Indication siRNA Asset can Translate into 1K+ kg of Annual Demand



Traditional Phosphoramidite Chemistry Cannot Efficiently Scale to Meet that Demand

# CapEx to Meet Anticipated Demand via Chemical Synthesis is Prohibitively High

## CapEx Required using Chemical Synthesis

\$725M = 1K kg of RNAi/year

\$7.25B = 10K kg of RNAi/year  
(1-2 large indication assets)

\$15B = 20K kg of RNAi/year  
(3-4 large indication assets)

## Real World Example: Agilent

- Agilent invested **\$725M** in facility expansion<sup>1</sup> to produce up to **1K kg of RNAi per year**
- **\$10B to \$20B** infrastructure investment required to meet anticipated annual demand of **~30K kg by ~2030**



# Additional Limitations of Traditional Chemical Synthesis

## Limited Scalability

- Current batch size limited to approximately 5-10 kg
- Bottlenecks for development-stage assets

## Toxic Solvent Use

- 1K kg of siRNA = 3K kg of toxic and flammable solvent use
- Produces millions of liters of costly, harmful chemical waste

## Lower Batch Yield & Purity

- Inefficient for longer siRNAs
- ~70% purity for oligos >12 nucleotides

## Ex-U.S. Manufacturing Infrastructure

- Largely reliant on foreign suppliers of raw materials
- Prohibitively high CapEx to onshore manufacturing to the U.S.

# RNA Manufacturing Solutions: ECO Synthesis Toolbox



# ECO Synthesis Toolbox: Today's Status

2025 is About Shifting from the Development Stage to Commercial Execution

✓ Delivered proof-of-concept for our scalable, enzymatic manufacturing solution

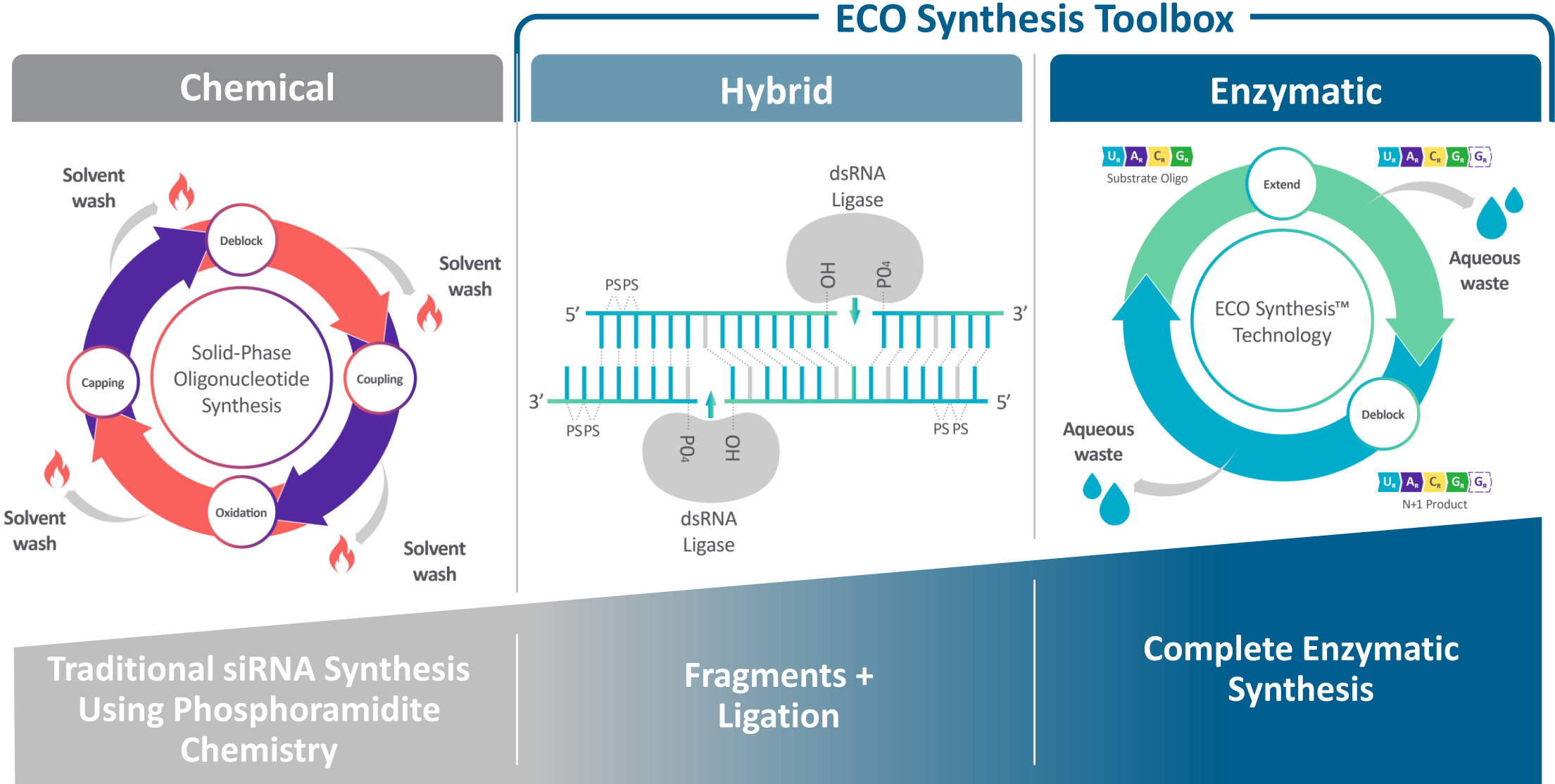
✓ Completed construction of ECO Synthesis Innovation Lab to supply GLP-grade material

✓ Signed first revenue-generating contract for ECO Synthesis manufacturing services

▶▶ First-mover advantage in enzymatic synthesis of siRNA therapeutics

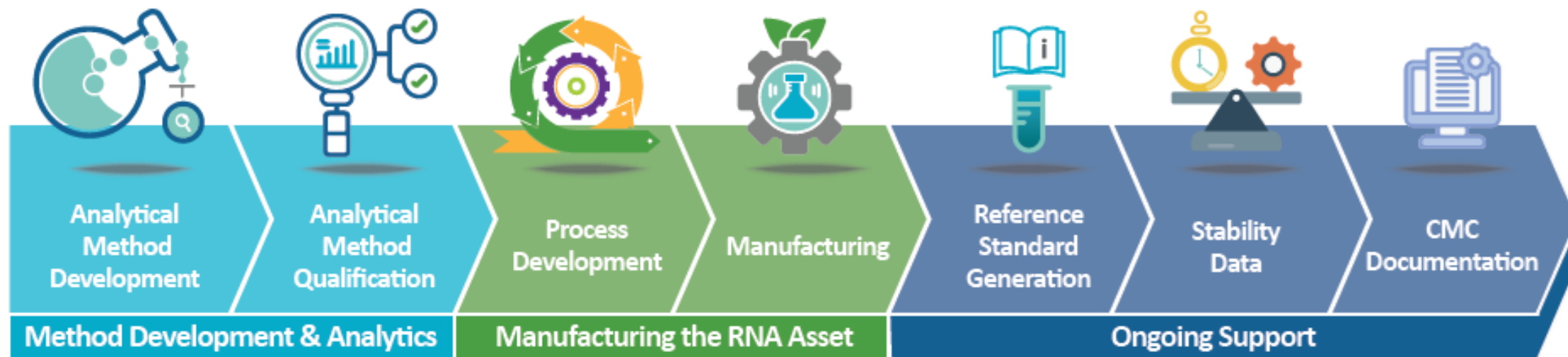
▶▶ Well positioned to grow with clients as their pipelines of siRNA drugs get approved

# Enzymatic Solutions Provide Optionality in siRNA Synthesis



# ECO Synthesis Toolbox: Broad Portfolio of Enzymatic Capabilities

Solutions Designed to Service Both Large and Small siRNA Drug Innovators



Codexis Solutions are Poised to Capture a Large Proportion of siRNA Assets in Development Today


# ECO Synthesis vs. Traditional Chemistry: Potential Impact

Comparing Production of 1K kg of RNAi

	Phosphoramidite Chemistry	ECO Synthesis Platform	Potential Impact
Maximum Synthesis Batch Size (kg)	~5-10 kg	~25-50 kg	5x + bigger
Production Time (months)	~12-22 months	~6-11 months	50% faster
CapEx Required (millions)	~\$500-700M	~\$150-210M	70% cheaper

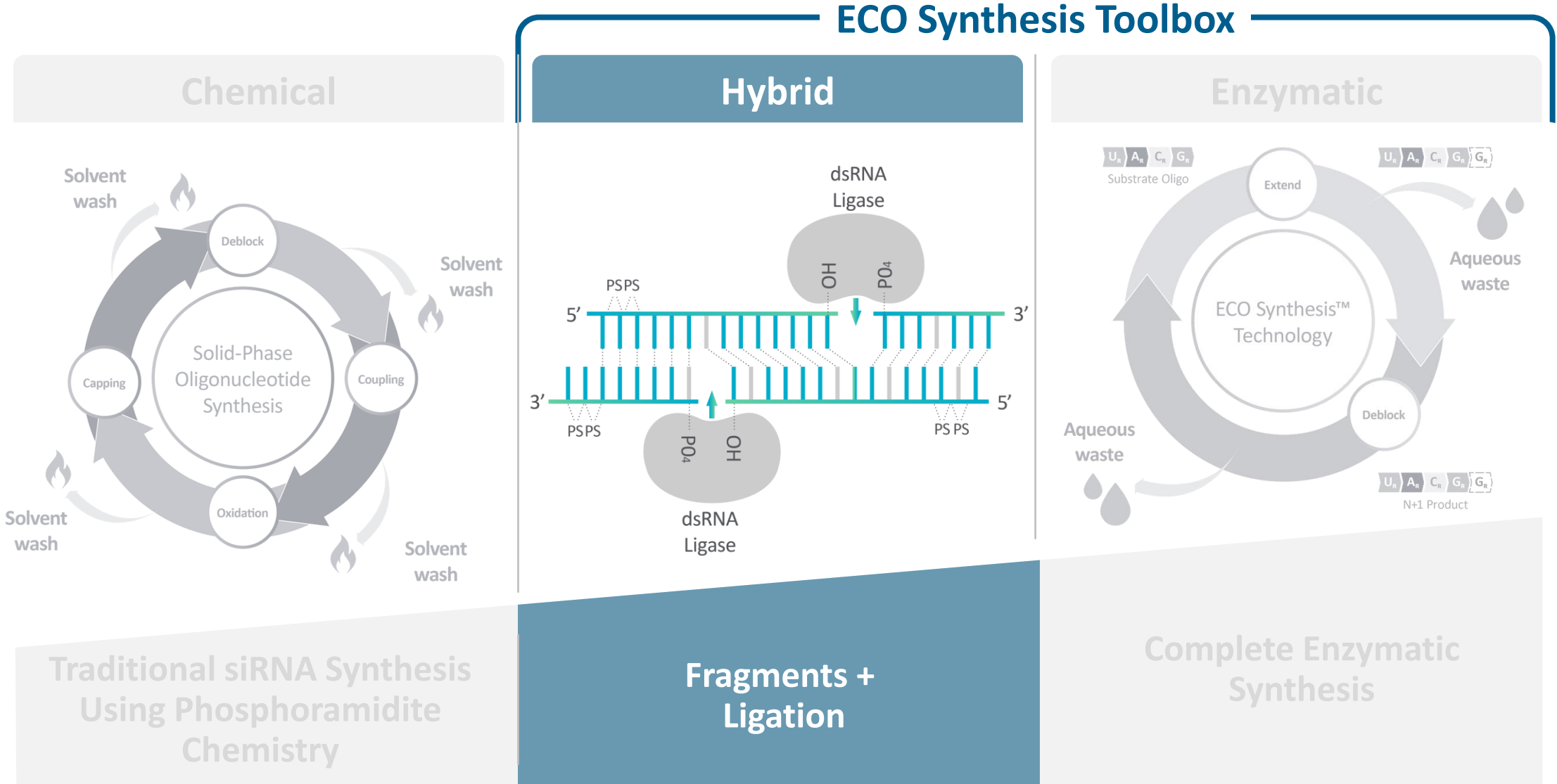
Codexis modeling and calculations based on:

1. 2 trains running 24/7 and using 80 cm synthesis columns (1.8 mol) for PAC; ECO uses 80 cm column with higher bed height
2. Phosphoramidite chemistry (SPOS) yield: 3.5-4 g/mmol, ECO Synthesis yield: 4-5 g/mmol
3. Final process conditions for ECO Synthesis™ still under development
4. Phosphoramidite chemistry CapEx estimate from Agilent facility investment



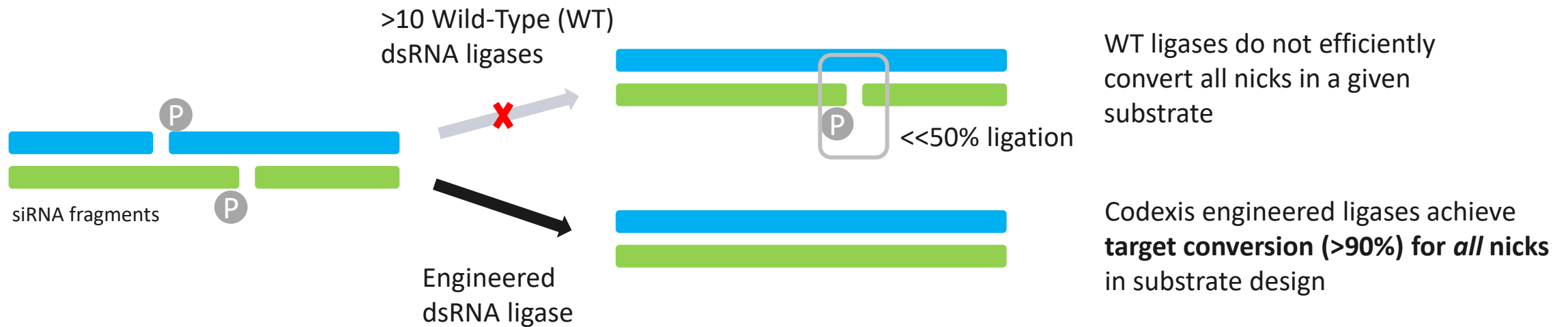
# ECO Synthesis Toolbox: Double-Stranded RNA Ligase Solutions

# Hybrid dsRNA Ligase Approach: Near Term Revenues



# Codexis' Engineered dsRNA Ligases Enable Higher Purity and Lower Manufacturing Costs

- Using chemical synthesis, purity and yield go down with longer siRNA strands
- dsRNA ligases enable shorter fragments to be stitched together into a full-length siRNA
  - Reduces costs and improves purity and yield
- Codexis ligases **dramatically** outperform wild-type ligases



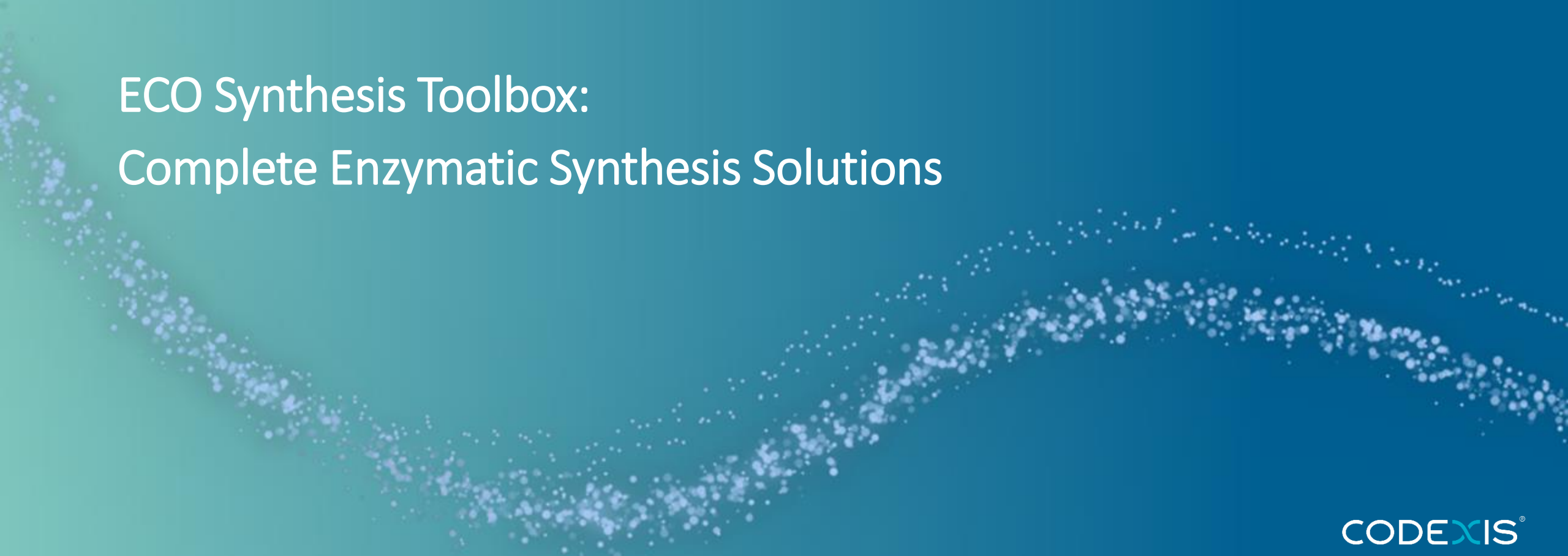
# dsRNA Ligase Solutions: Multi-Pronged Commercial Strategy

Variety of Approaches to Meet Customers Where They Are



Offerings Designed to Encourage Rapid, Seamless Customer Uptake



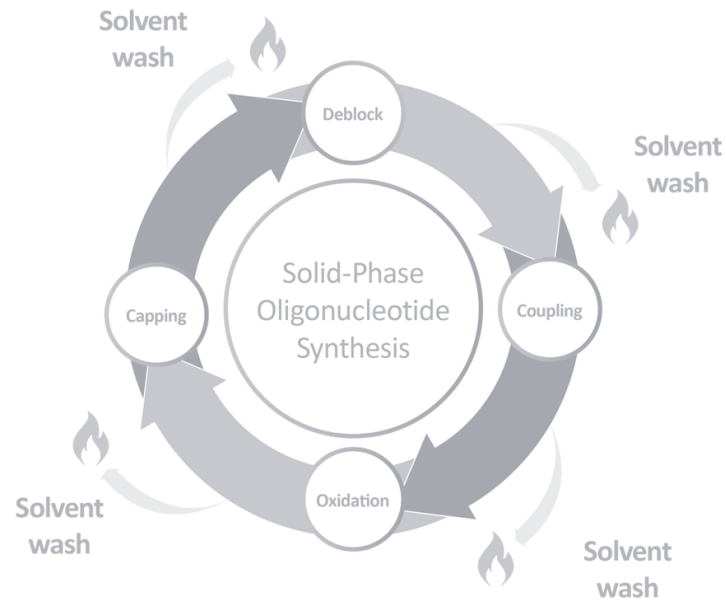


# ECO Synthesis Toolbox: Complete Enzymatic Synthesis Solutions

# ECO Synthesis Manufacturing Platform: the Complete Enzymatic Solution

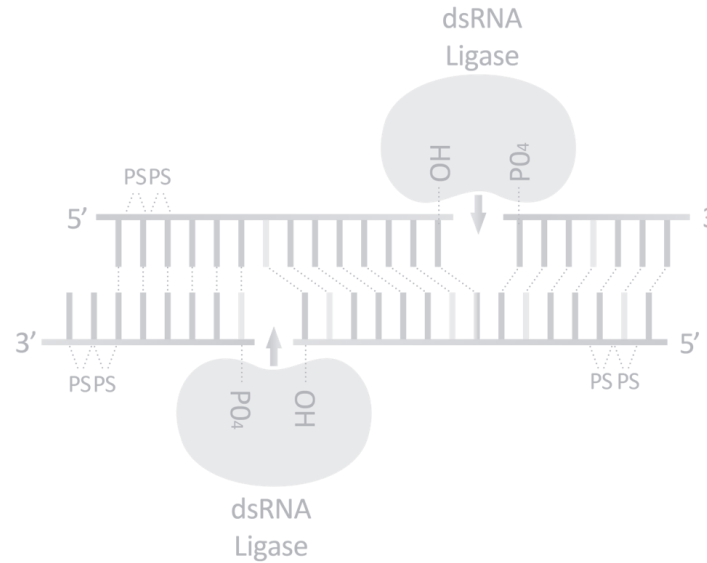
## ECO Synthesis Toolbox

### Chemical



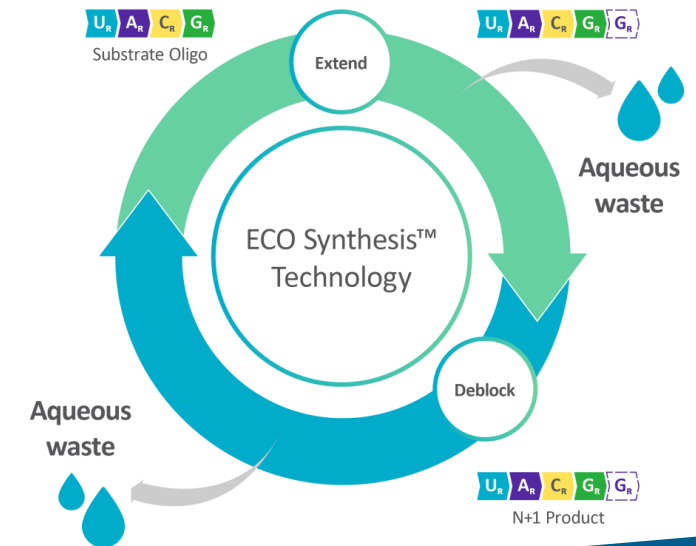
Traditional siRNA Synthesis  
Using Phosphoramidite  
Chemistry

### Hybrid



Fragments +  
Ligation

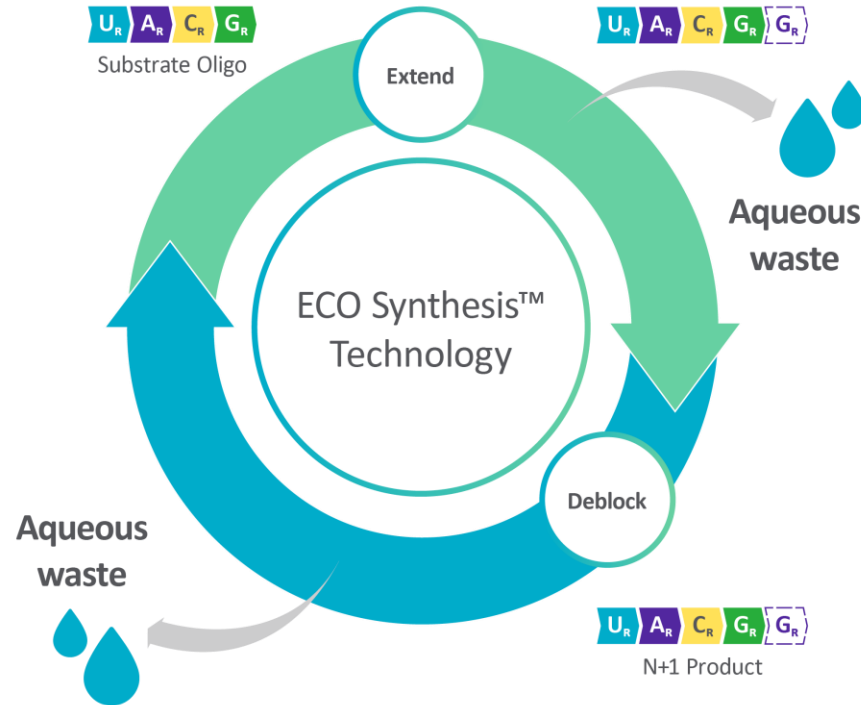
### Enzymatic



Complete Enzymatic  
Synthesis

# A Novel Enzymatic Synthesis Method for RNA Manufacturing

## ECO Synthesis Manufacturing Platform Overview



### Core Technology

Sequential addition of modified RNA nucleotides

### Raw Materials

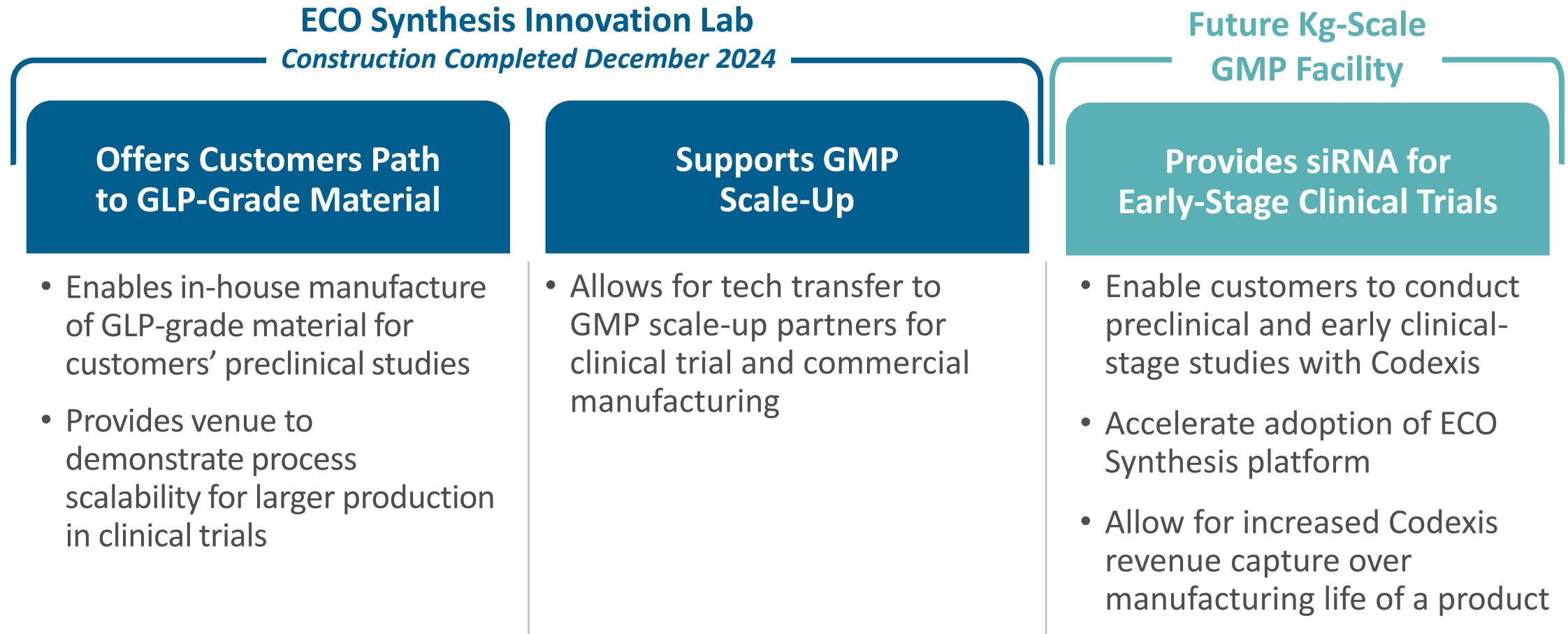
Enzymatically generated NQPs (building blocks) & starter oligos

### Conjugation

Enzymatic attachment of targeting moieties

Codexis is the Leader for a Complete Enzymatic Solution

# Staged Approach to Providing siRNA Material from GLP through GMP-Grade



# Key Highlights

# TIDES Europe 2024: Key Technical Highlights

- **Successfully Made Inclisiran using the ECO Synthesis Toolbox**
  - First ever end-to-end enzymatic synthesis of a complete siRNA therapeutic
- **Synthesized Inclisiran using Four Different Enzymatic Methods**
  - Illustrates flexibility and reliability of ECO Synthesis platform
- **Completed Multiple Proof-of-Concept Technical Collaborations**
  - Bachem
  - Major siRNA drug innovator

## Four Routes of Enzymatic Synthesis

1. Sequential enzymatic synthesis of full-length siRNA asset using ECO Synthesis technology
2. Ligation of fragments produced by ECO Synthesis technology
3. Ligation of fragments produced by ECO Synthesis technology & chemical methods
4. Ligation of fragments produced by chemical methods

# TIDES USA 2025: Key Technical Highlights

## Landmark Presentations Showcased Practical Applications of ECO Synthesis Platform

- **Highlighted Reproducibility and Consistency of ECO Synthesis Platform**
  - Demonstrates that ECO Synthesis can reliably manufacture customers' siRNA
- **Bachem, Nitto Avecia, & ST Pharm Replicated Codexis' Ligation Process in Their Own Facilities**
  - Validates that Codexis' process can be easily transferred
  - Benefits across yield, purification, and impurity control can be replicated in customers' hands
- **Unveiled Proprietary Machine Learning Tool for Optimized Ligation**
  - Accelerates ligase selection process and maximizes ligation efficiency
- **Demonstrated Potential to Control Stereochemistry in Enzymatic Synthesis of siRNA**
  - Offers potential benefits across each siRNA asset's therapeutic potency and market position

# Positioned to Win in Enzymatic Synthesis of RNAi Therapeutics

- 1 **CodeEvolver platform:** leading protein engineering technology
- 2 **20-year history** engineering solutions for complex therapeutics
- 3 **Significant market opportunity** given growing demand for RNAi therapeutics
- 4 Strong foundation of **large pharma customers and CDMO collaborators**
- 5 **First mover advantage** in enzymatic RNA synthesis with ECO Synthesis toolbox



# Anticipated 2025 Milestones



## **TIDES USA annual meeting**

- **Achieve pilot scale production with ECO Synthesis Innovation Lab for GLP material**
- **Secure ECO Synthesis raw materials supply chain**
- **TIDES Europe annual meeting**
- **Sign a GMP scale-up partnership**



# Thank You

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Nasdaq: **CDXS**  
[www.codexis.com](http://www.codexis.com)