RNA THERAPEUTICS & MANUFACTURING Asia 2026

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RNA THERAPEUTICS & MANUFACTURING ASIA 2026: DRIVING THE NEXT PHASE OF RNA COMMERCIALISATION

RNA therapeutics have entered a defining phase.

What began as a scientific breakthrough has evolved into a highly competitive, capital-intensive space. The success of mRNA vaccines has accelerated global investment, expanded pipelines, and positioned RNA as a transformative modality across multiple therapeutic areas.

Critical Challenge:

Many RNA programs fail not due to weak science, but because of an incomplete understanding of how therapies behave in the human body.

1 The Shift: From Molecular Design to Biological Performance

Past Focus:
- Sequence optimization
- Stability improvements
- Protein expression efficiency

Current Question:

How does RNA behave in real biological systems?

Biological Realities:
- Dynamic protein environments
- Immune system interactions
- Organ-specific barriers

Key Insight:

The success of an RNA therapy is defined less by its designand more by how it performs inside the body.

2 The Biological Layer Most Teams Underestimate

RNA delivery systems, particularly lipid nanoparticles (LNPs), evolve after administration.

Interactions can:
- Modify surface properties
- Influence tissue distribution
- Trigger or suppress immune responses

Implications:
- Preclinical results may not translate directly
- Small formulation differences can lead to major outcome changes
- Predictability remains a major industry gap

3 The Translation Gap: Why Promising Programs Stall

Challenges moving from controlled environments to human systems:
- Variability in patient biology
- Inconsistent delivery efficiency
- Limited understanding of in vivo behavior

Impact:
- Delayed clinical timelines
- Increased development costs
- Repeated reformulation cycles

Key Insight:

The biggest bottleneck in RNA is not discovery, it is translation.

4 Delivery Remains the Defining Challenge

Current delivery systems perform well in limited contexts.

Challenges expanding beyond conventional use:
- Tissue-specific targeting
- Controlled biodistribution
- Minimizing off-target effects

Industry Reality:

Achieving consistent and precise delivery across multiple tissues remains one of the most critical challenges in RNA therapeutics.

5 The Next Frontier: Beyond Conventional Targets

Future RNA applications require:
- Access to immune cells
- Penetration into solid tumors
- Delivery across complex biological barriers

Resulting challenges:
- Greater design complexity
- Higher regulatory scrutiny
- Need for advanced delivery strategies

Key Insight:

The next wave of RNA innovation will be defined by where therapies can reach—not just what they encode.

6 Strategy Shift: Integration Over Isolation

Traditional Model:

Discovery → Development → Manufacturing → Regulatory

Emerging Model:

Integrated, parallel decision-making with early collaboration and cross-functional alignment

Key Insight:

Success depends on aligning science, strategy, and execution from the very beginning.

7 Asia's Growing Role in RNA Advancement

Key Drivers:
- Strong government investment
- Expanding biotech infrastructure
- Faster clinical execution timelines
- Growing number of specialized partners

Key Insight:

Asia is emerging as a critical hub for RNA development and commercialization.

8 What Leading Companies Are Doing Differently

Shared Strategies:
- Building integrated platforms
- Prioritizing delivery and clinical outcomes
- Investing in scalable systems
- Aligning early with partners and regulators

Examples:
- **Moderna** – Platform-driven development
- **BioNTech** – End-to-end RNA capabilities
- **Alnylam Pharmaceuticals** – Sustained clinical success

Key Insight:

Competitive advantage is shifting from innovation alone to execution capability.

9 Industry Leaders Driving the Conversation

Kim Seokjoong
CSO, BreezeBio

Wonil Kim
CSO, Aston Sci.

Poon Hung Fai
CEO, Sirnaomics

Xian Zeng
CEO & Founder,
Byterna Therapeutics

Jin Li
Head of R&D, CanSino

Focus Areas: ➤ Delivery technologies ➤ Clinical translation ➤ Strategic partnerships

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10 Investment Landscape: A Shift Toward Execution

Capital is flowing toward:
- Delivery technologies
- Scalable platforms
- Late-stage development programs
- AI-enabled optimization

Deprioritized:
Early-stage, non-differentiated approaches

Key Insight:
Investors are prioritizing execution readiness over theoretical innovation.

11 Implications for Biopharma

To remain competitive:
- Design with biological performance in mind
- Integrate delivery strategy early
- Align regulatory pathways from the start
- Collaborate across the ecosystem

Critical Gap:
Treating delivery as a secondary step rather than a core strategy

12 Implications for CDMOs

Beyond manufacturing, companies now seek:
- Formulation expertise
- Development guidance
- Faster clinical readiness
- Integrated service offerings

Key Insight:
The most valuable CDMOs are those that contribute to outcomes, not just capacity.

12 The Road Ahead

RNA therapeutics will expand across:
- Oncology
- Rare diseases
- Vaccines
- Genetic disorders

Success will depend on:
- Precision in delivery
- Consistency in outcomes
- Speed of development
- Strength of partnerships

Key Insight:
The future of RNA will be defined by the effectiveness of translating science into real-world impact.

Join the Industry Conversation

At RNA Therapeutics & Manufacturing Asia 2026, leaders will explore:
- Advances in delivery systems
- Clinical translation challenges
- Manufacturing and scalability strategies
- Partnership opportunities across the ecosystem

Co-located with:

CELL & GENE THERAPY WORLD ASIA 2026

OLIGONUCLEOTIDES & PEPTIDES WORLD ASIA CONGRESS 2026

CONFIRMED SPEAKERS

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