

BIOPHARMA CAPABILITIES OVERVIEW



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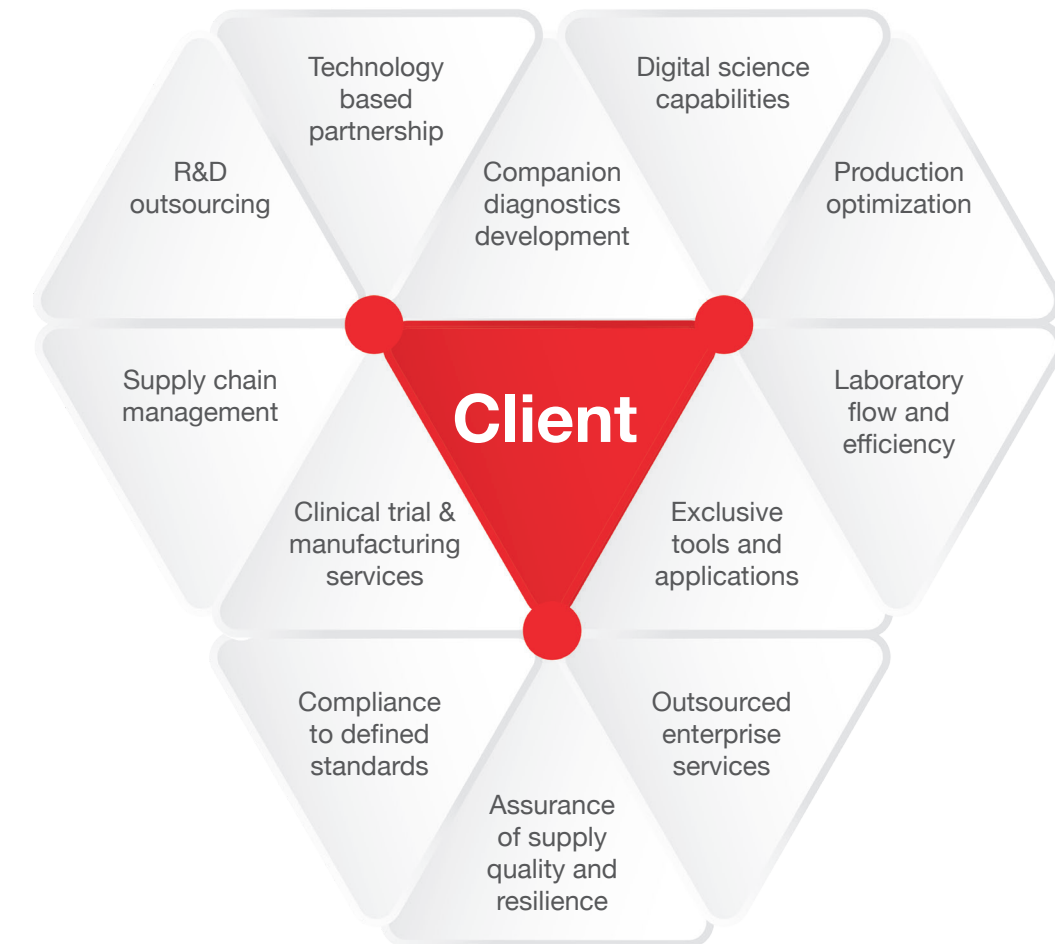


We take pride in our Mission

We enable our customers
to make the world healthier,
cleaner and safer

The value we bring

We help our customers accelerate **innovation**
and enhance **productivity**, underpinned by **quality**





How we deliver

World-Class Capabilities

Leading product and service

- Best-in-class instruments, consumables and equipment
- Program-based outsourcing services for drug substance and drug product and clinical trials
- Spans the breadth of life sciences

Workflow Solutions

Integrated technologies that drive better outcomes

- Target identification
- Biomarker-based companion diagnostics
- Precision medicine
- Process analytical technologies

Productivity Solutions

Optimized operational capabilities

- Transactional excellence
- Lab informatics
- Supply chain optimization
- Process control and monitoring
- Clinical trial supply and management

Foundation of Quality

Commitment to excellence

- Robust quality systems
- Assurance of supply
- Adapting to a dynamic regulatory landscape
- Strong regulatory track record

Accelerating Innovation

Enhancing Productivity

Uncompromising Quality

Comprehensive in-house or outsourcing solutions from molecule to medicine

Early Discovery and Research	Process Development	Clinical Trials	Commercial Production
<p>Solutions to create or source new therapeutic molecules</p> <p>Discovery research</p> <ul style="list-style-type: none">• World-class detection, sample throughput and specificity• Consumables, reagents, lab equipment• Analytical instrumentation• Lab productivity tools• Global distribution and supply chain management <p>\$1B R&D Investment</p>	<p>Solutions to create or source new therapeutic molecules</p> <p>Process development and optimization</p> <div><ul style="list-style-type: none">• Target identification• Cell culture customization• Molecule and application-specific processes• Analytical technologies• Drug substance and drug product development for small and large molecules<ul style="list-style-type: none">• Scale-up solutions• Technology transfer• Process monitoring• Materials characterization• Drug design, including complex formulation and delivery format• Process validation</div> <p>>5,000 R&D Scientists and Engineers</p>	<p>Support across all phases of clinical development</p> <div><p>Clinical trials manufacturing</p><ul style="list-style-type: none">• Manufacturing of clinical trial material (biologics and small molecules)• Bioprocessing solutions for in-house manufacturing• Compliance management</div> <div><p>Clinical trial supply and logistics</p><ul style="list-style-type: none">• Clinical supply optimization• Technology transfer• Primary & secondary packaging• Label design, translation & production• Storage & distribution• Global network• Comparator & Ancillary materials sourcing & management</div> <p>Supported the development of 250 small & large molecules in last 3 years</p>	<p>Production continuity from clinical trials to commercial scale</p> <p>Commercial launch</p> <ul style="list-style-type: none">• Biologics and small molecule manufacturing• Quality control and assurance equipment• Process analytical testing solutions• Process monitoring• Validation and regulatory support packages <p>More than 1,000 molecules developed 40+ dosage forms</p>

Innovation investments put us at the forefront of scientific advances

Precision Medicine

Broadest combination of capabilities across the precision medicine workflow: Genetic and protein analysis, biobanking, informatics and diagnostics

Structural Biology /Protein Analysis

Leading cryo-electron microscopy and high-resolution mass spectrometry workflow solutions

Biopharma QA/QC

Omics-based analytical technologies for quality testing and release



Productivity solutions to meet your unique needs

Enhanced Procurement Processes

- Simplified access to a broad portfolio of leading brands
- Leading eBusiness platform and electronic transaction options
- Supplier aggregation and tail spend management
- Customer and technical support

Supply Chain Simplification

- Purpose-built and integrated supply chain
 - cGMP supply chain distribution centers
 - Specialized supply management (e.g. biorepository and cold chain storage)
- Assurance of supply
 - Safety stock programs
 - Secondary sourcing
- Supply and order management services
- Material handling and logistics
- Lab supplies inventory management

Digitally Enabled

- Cloud-connected instruments
- Remote monitoring and diagnostics for instruments and equipment
- Algorithm-based predictive instrument maintenance
- Manufacturing execution system (MES) to integrate unit operations on one network
- Scientific apps
- Data and information management

2.5M
products from
9,000 suppliers

>70%
eCommerce transactions

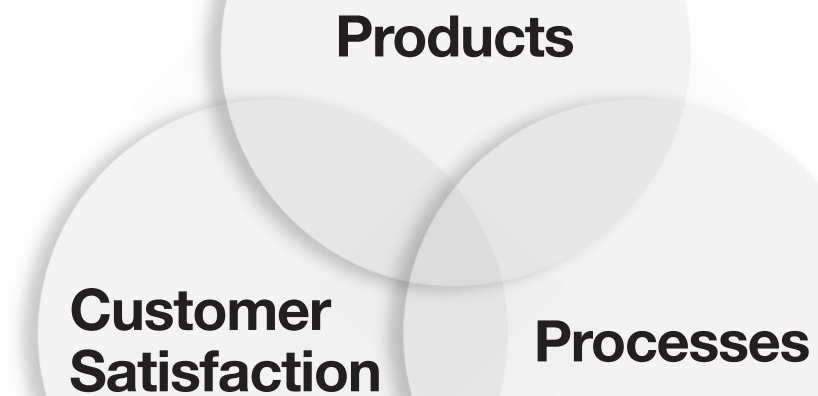
>1,000
on-site resources

>4,500
instrument
servicing FTEs

Foundation of quality

Our process

- Rigorous quality management system (QMS) that meets the demands placed on our customers
- Practical Process Improvement (PPI) business system and lean practices
- Manufacturing redundancy and business continuity strategies to assure supply



>20

Approvals from regulatory authorities for Pharma Services sites globally



>1,000

Molecules developed in the last decade



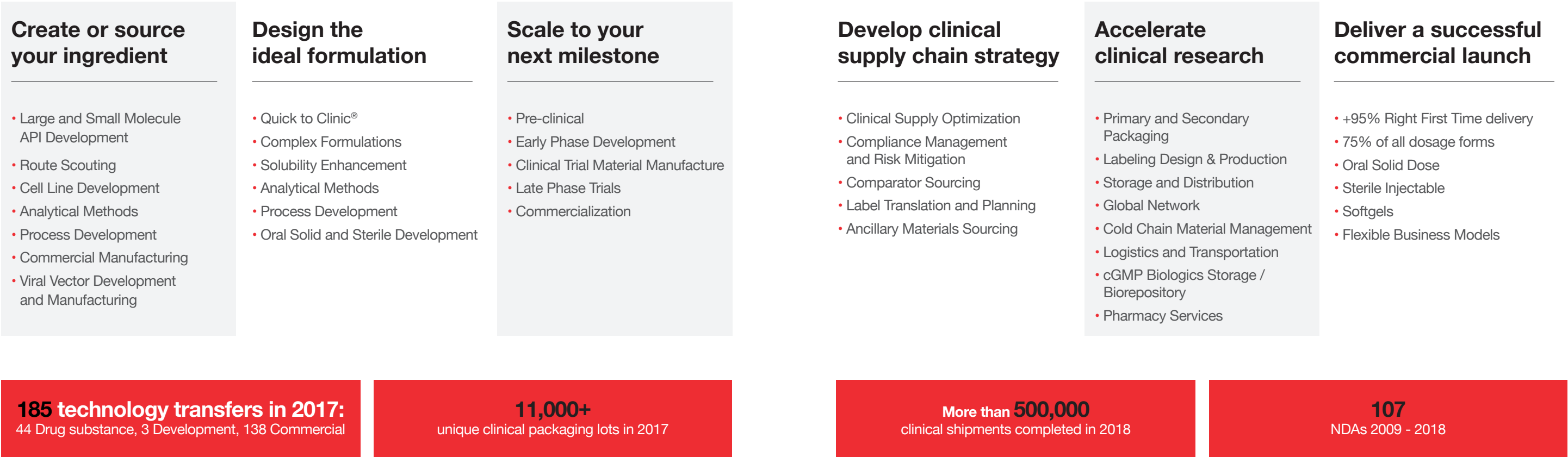
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New drug applications in the last decade (2X the nearest competitor)

Example: Pharma Services (CDMO) business

Expanding our end-to-end pharmaceutical services offering

Built on a foundation of quality systems and commitment to continuous improvement, we help you achieve success at every milestone





70,000

employees



5,000

R&D
scientists/
engineers

ThermoFisher
SCIENTIFIC

thermo
scientific

applied
biosystems

invitrogen

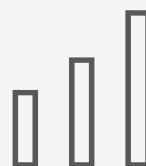
 fisher
scientific

unity
lab services



\$1B

invested in R&D



\$24B

in revenues