

1 Market Perspective

Pharmaceutical manufacturing equipment and the associated automation, control and analytical instrumentation are fundamental to produce safe, effective, high-quality therapeutic products. To meet the challenges from increasingly downward price pressure, stringent regulation, shifting markets and outcome-based insurance reimbursement, modern manufacturing processes rely heavily on innovative, integral, flexible equipment to achieve quality and efficiency from an overall cost-of-goods standpoint.

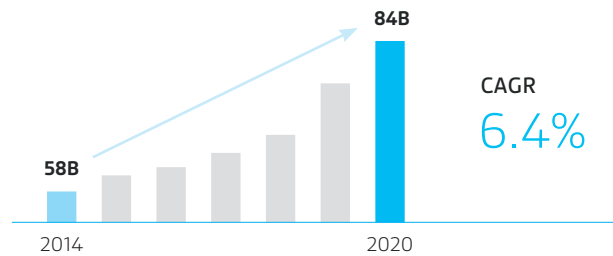
Competition, societal expectations, pricing, commoditization and regulatory compliance lead the long list of concerns that will pressure the industry to sustain its capacity. Major pharmaceutical manufacturers are steadily adopting and integrating more modern processing and manufacturing concepts into day-to-day operations and translating that into flexibility, quality and cost-efficiency gains.

According to Jim Miller and PharmSource data, capital expenditure (CAPEX) in new plant and equipment by the bio/pharmaceutical industry increased sharply in 2014. This total spend exceeded \$21.4 billion, a 13% increase over 2013 and more than the 11% annual increase observed from 2010 through 2013. Spending by the 25 largest global bio/pharma companies increased by 10.5% to \$19.2 billion, while CAPEX by the midsize sector rose 46% to \$2.2 billion in 2014.¹

Although industry data from Nice Insight and others revealed some slowing in spending on equipment, beginning in 2016, that dip may reflect more of a pause or temporary slowing in capital spending. However, with biologic drugs becoming relatively mainstream, this category will work to sustain rising equipment spending in the sector. This demand will pressure the industry to industrialize bioprocessing capacity and has attracted billions in financing – funds accelerating research and development, as well as filling pipelines. “PharmSource Trend Report, Bio/Pharma CapEx Trends 2016” noted bio/pharma companies have invested over \$150 billion for new plant and equipment in the past five years, “an amount at least 10 times greater than what CMOs have invested in themselves,” indicated the analysis.²

Nevertheless, the market for services from contract development and manufacturing organizations is expanding at a compound annual growth rate (CAGR) of 6.4% and is expected to increase to \$84 billion in 2020, up from \$58 billion in 2014.³ Most forecast data agrees that demand will continue to fuel equipment purchasing and capacity development in the sector and that the health of the contract development and manufacturing market correlates directly with the health of the overall pharmaceutical industry. Both sectors are doing well at the present time, and both will continue to refine existing capacity and erect new capacity to make breakthrough biologic drugs.

CONTRACT DEVELOPMENT & MANUFACTURING ORGANIZATION COMPOUND ANNUAL GROWTH RATE



That growth is in response to global drug product markets projected to expand at a CAGR of 6.3% from 2016 to 2022, according to research firm EvaluatePharma. Note that the analyst group projects 50% of the top 100 products will be biologic by the end of the study period.⁴

Global demand for drug substances – both small and large molecule active pharmaceutical ingredients (APIs) – is growing at a rate similar to that of drug products (6.5% CAGR), according to market research firm Mordor Intelligence, increasing from \$154 billion in 2015 to \$225 billion in 2021.⁵ Global and generic bio/pharma companies, in particular, have invested heavily in new capacity, especially for biopharmaceuticals and in emerging markets in pursuit of a new cycle of advanced manufacturing capability.

For the near term, evidence points to sustained spending on pharmaceutical equipment. Drug developers and manufacturers will remain focused on manufacturing strategies that include new and ongoing investment in pursuing a primary, technology-driven route to compliance and cost control.