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AI in Drug Discovery Market (2nd Edition): Distribution by Drug Discovery Steps (Target Identification / Validation, Hit Generation / Lead Identification and Lead Optimization), Therapeutic Area (Oncological Disorders, CNS Disorders, Infectious Diseases, Respiratory Disorders, Cardiovascular Disorders, Endocrine Disorders, Gastrointestinal Disorders, Musculoskeletal Disorders, Immunological Disorders, Dermatological Disorders and Others) and Key Geographies (North America, Europe, Asia-Pacific, Latin America, MENA and Rest of the World): Industry Trends and Global Forecasts, 2022-2035

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Abstracts

The AI in drug discovery market is expected to reach USD 0.74 billion by 2022 anticipated to grow at a CAGR of 25% during the forecast period 2022-2035.

The journey of discovering and developing new therapeutic options faces significant hurdles, mainly due to a trial-and-error process resulting in a small fraction of leads becoming viable for clinical studies. It's estimated that roughly 90% of these prospects don't advance, leading to considerable financial strain. Bringing a new prescription drug to market typically spans 10 to 15 years and costs between $1 to $2 billion, with a substantial portion allocated to the discovery phase alone. To tackle these challenges, the pharmaceutical sector is turning to Artificial Intelligence (AI) tools to revolutionize drug discovery and development. AI, especially deep learning algorithms, can analyze

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extensive clinical and biological data to guide modern drug discovery. These tools sift through scientific literature, electronic health records, and clinical trial data to offer insights for target identification, hit generation, and lead optimization.

At present, AI-powered tools such as deep learning, supervised and unsupervised learning, natural language processing, and machine learning are extensively utilized in healthcare for drug discovery. The objective is to enhance R&D efficiency and decrease clinical setbacks by forecasting safety and efficacy in early developmental phases. Around 210 AI drug discovery companies provide related services, with over $10 billion invested in this sector over the last five years. Notably, half of this investment occurred in the last two years, signaling a growing interest. Additionally, there have been approximately 440 partnerships between industry and academic entities to advance AI-based solutions for drug discovery. The robust initiatives in this domain indicate potential market expansion in the forecasted period for stakeholders engaged in this emerging industry.

Report Coverage

The report examines the AI in drug discovery market, focusing on drug discovery steps, therapeutic area and key geographies.

It analyzes factors impacting market growth, such as drivers, constraints, opportunities, and challenges.

Evaluation of potential benefits and hurdles within the market, providing insights into the competitive landscape for major industry players.

Revenue forecasts for market segments across six major regions.

Comprehensive analysis covering AI-centric companies specializing in drug discovery services, platforms, and tools. Parameters include company details like establishment year, employee count, headquarters location (North America, Europe, Asia-Pacific, Rest of the World), and categorization (service providers, technology providers, in-house players). Additionally, it encompasses AI technology types, drug discovery phases, types of drug molecules, and targeted therapeutic areas.

Detailed profiles of leading AI drug discovery companies in North America, Europe, and Asia-Pacific. Profiles encompass establishment year, employee

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count, headquarters location, key executives, AI-based drug discovery technology portfolio, recent developments, and future prospects.

Examination of partnerships between stakeholders involved in AI-driven drug discovery from 2009-2022, covering various agreement types (research and development, technology access/utilization, acquisitions, licensing, joint ventures, mergers, service agreements) and analyzing partnership trends based on various parameters.

In-depth analysis of investments (grants, awards, financing rounds, IPOs, subsequent offerings) made in AI drug discovery companies from 2006-2022.

Evaluation of patents filed/granted from 2019 to February 2022, considering application year, geographical region, CPC symbols, emerging focus areas, applicant types, and leading players regarding intellectual property portfolios.

Qualitative assessment of competitive forces in the AI in drug discovery market, including threats for new entrants, bargaining power of drug developers, AI-based drug discovery companies, substitute technologies, and rivalry among existing competitors.

Detailed valuation analysis using a proprietary, multi-variable dependent valuation model to estimate the current net worth of AI drug discovery industry players.

Insightful analysis estimating potential cost savings associated with AI adoption in drug discovery across approximately 15 countries, considering pharmaceutical R&D expenditure, drug discovery budgets, and AI adoption across various discovery steps.

Key Market Companies

Atomwise

BioSyntagma

Collaborations Pharmaceuticals

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Cyclica

InveniAI

Recursion Pharmaceuticals

Valo Health

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