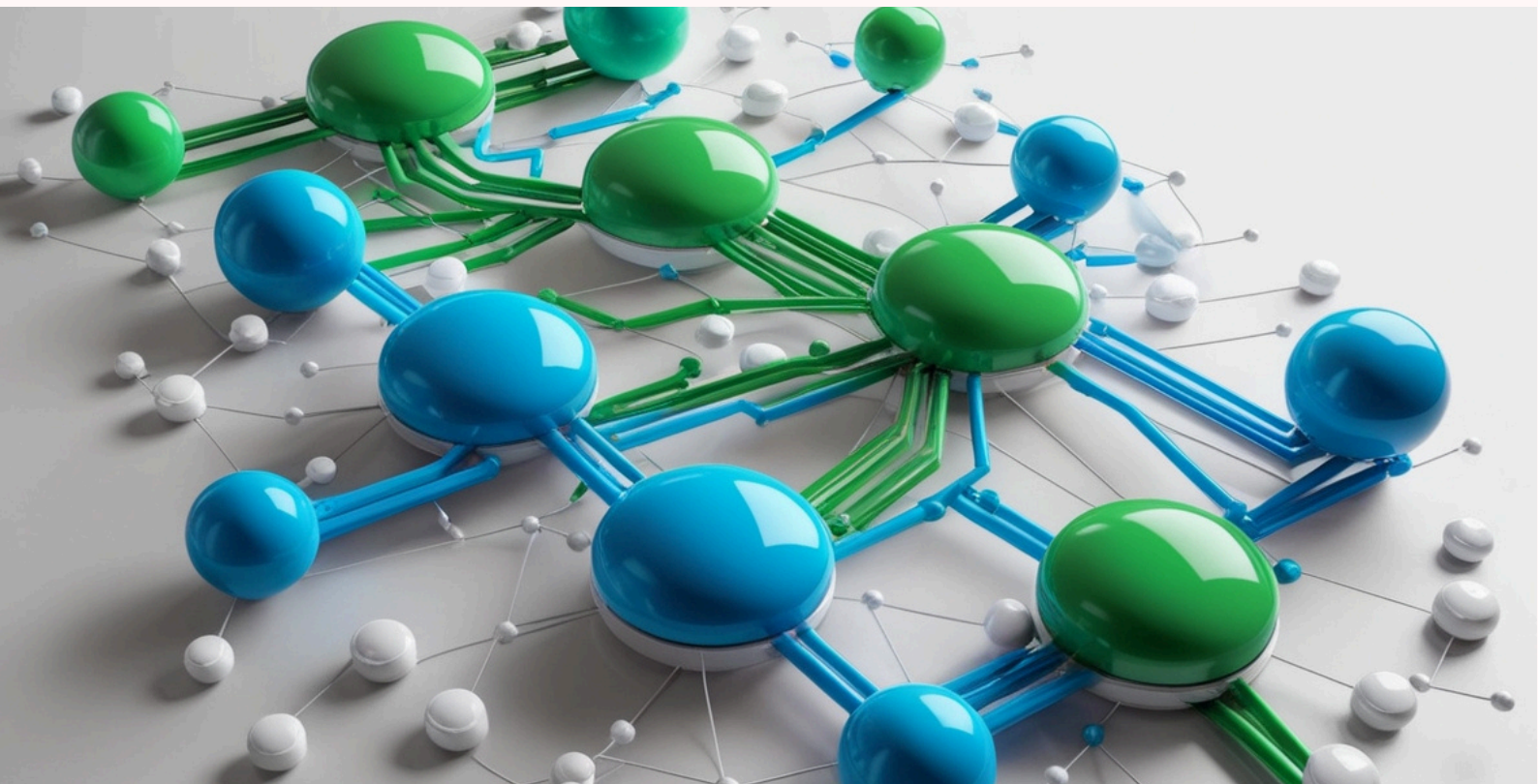




# AI-POWERED CURATION & DISCOVERY SERVICES



**A Deep-Tech company in Pharma R&D**

**Partnering With**

**Pharma & Biotech | Startups | Diagnostics | Consulting Firms |  
CROs | MedTech Companies | Academic Institutions**

**Contact Us**

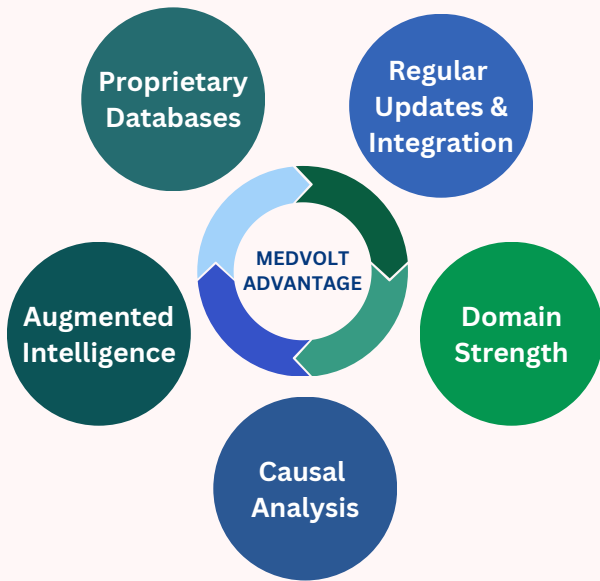


**contact@medvolt.ai**  
**www.medvolt.ai**

# KNOWLEDGE DISCOVERY

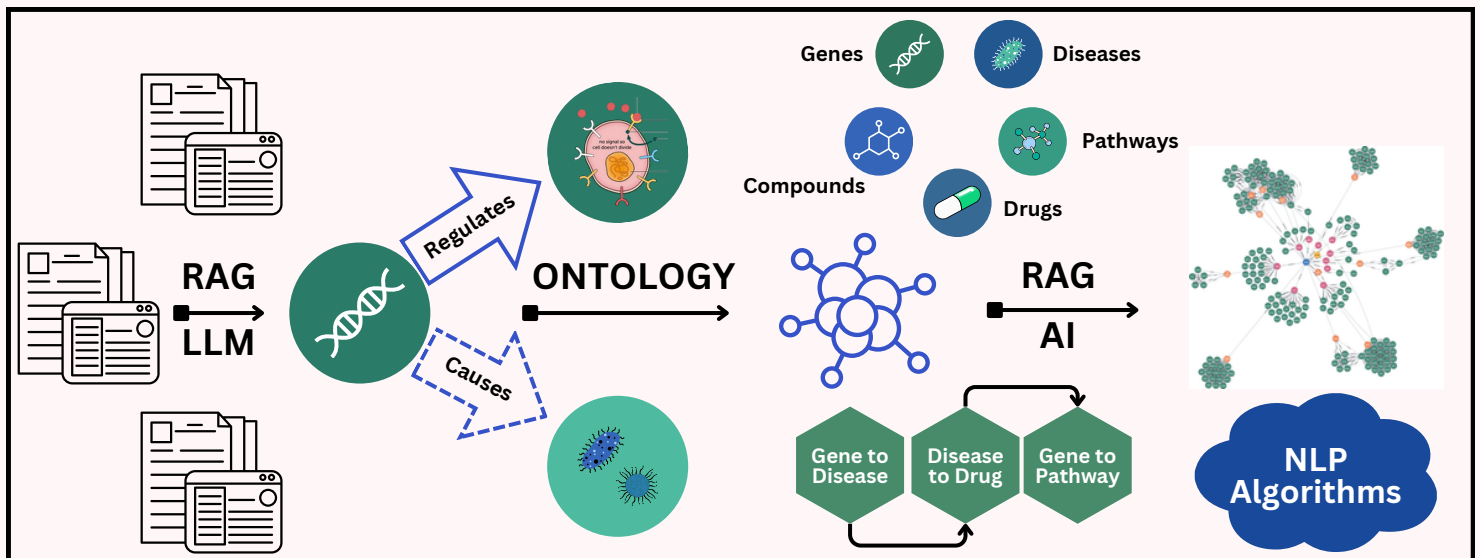
Harness Medvolt's validated & cutting-edge AI-enabled knowledge discovery solutions and domain expertise to uncover actionable insights for end-to-end R&D

## MedGraph EDGE

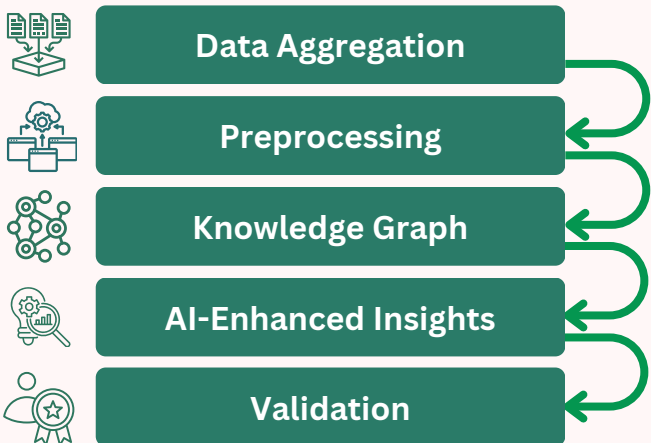


- Proprietary databases of **10M+** indication-relevant data points
- GenAI + RAG powered engine aggregates, integrates & updates diverse data sources rapidly
- Ontology-based linking for exploring interconnected relationships & causal connections
- Advanced Knowledge Graph to store & uncover hidden insights
- LLM's & RAG to power semantic search, reveal complex pathways & new relationships
- Insights validated by in-house experts

## WORKFLOW



## PROCESS



## APPLICATIONS

- Identification & Prioritization of novel therapeutic targets & biomarkers
- Understanding disease mechanisms & pathways
- Approaches for personalized medicine
- Proprietary database developed over a decade
- Rapid evolution through search engine ingestion
- Customizable to meet client requirements

Contact Us



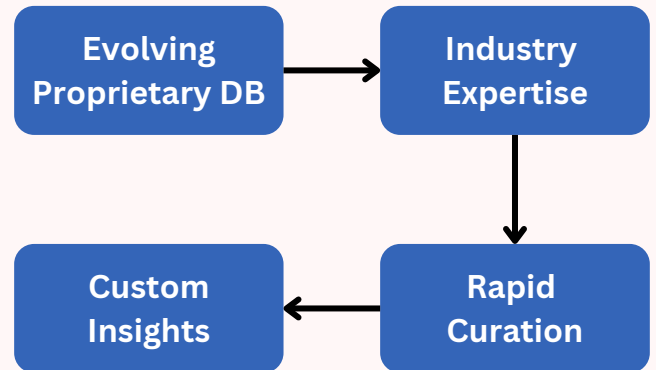
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# KNOWLEDGE CURATION SERVICES

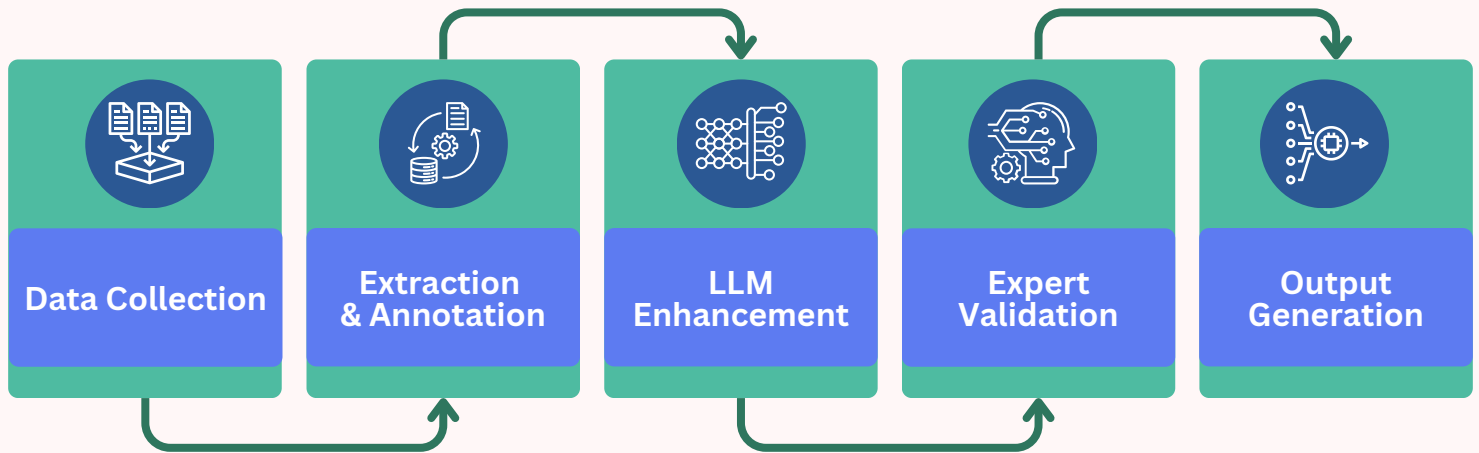
Structured solutions across industry domains with Curated Data-as-a-Service, AI augmentation & Domain expertise to guide strategic decision-making

## SALIENT FEATURES

- Continuously evolving proprietary databases
- NLP & Generative AI augmentation to reduce turn-around-time with increased accuracy
- Stringent validation & quality control of deliverables led by industry-experts
- Adaptable modular solutions for unique needs



## OUR PROCESS



## APPLICATIONS

Biomarker & Target Identification  
Genomics Insights  
Pharmacogenomics  
Precision Medicine  
Novel Drug Discovery  
Drug Repurposing

Medvolt powers innovation in life sciences with precise data curation accelerating research with trusted insights



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# 10M+ Multi-indication Datapoints

## Sourced From



OMICs Data



Publications



Grants



Patents



Clinical Trials



Compounds



Proprietary  
databases



Continuous expansion  
through AI engine



Customizable to meet  
client's requirements

## Medvolt's *Insilico* Services

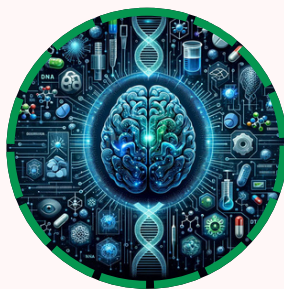
### Small molecule drug discovery workflows with MedGraph™

#### HIT ID - FBDD & LBDD

- Generative AI
- Reaction-Enumeration
- Generative Chemistry
- RL Optimization
- Fragment-based methods
- High-throughput AI Screening

#### HIT EXPANSION AND LEAD ID

- MedChem + Advanced MD
- Bioisostere Changes
- Scaffold Hopping
- Functional Group Substitutions



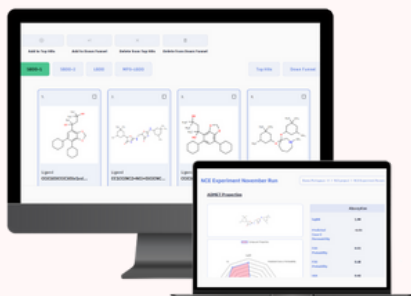
#### LEAD OPTIMIZATION

- Physics-based MD
- SAR Optimization
- Advanced MD - FEP
- MedChem Optimization

#### OTHER CAPABILITIES

- ML-based ADME-Tox Prediction
- Advanced Molecular Dynamics
- Protein Structure Modelling
- AI-driven Binding Site ID
- Detailed Interaction Studies
- Precision Docking
- Reverse Docking for off-target effects

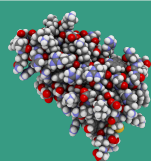
## Revolutionize your R&D with MedGraph™



- **Topaaz:** *De novo* molecule generation with a combination of reaction enumeration & AI-based approaches across structure-based & ligand-based drug discovery paradigms
- **Topaaz - MedKush:** Scaffold hopping & functional group substitutions for expanding on hits & advancing to leads
- **Oopal:** Advanced physics-based MD & Free Energy methods across multiple simulation regimes, params & force fields
- **Rubie:** Leverages ligand-based screening & reverse docking, matching drugs & compounds with targets integrated with MedGraph EDGE for knowledge discovery



Multiple rounds of AI-enabled  
*de novo* fragment-based  
compound generation & filtering



Deep Learning based optimizations &  
physics-based advanced molecular  
dynamics simulations

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