

Automating Knowledge and Analytics. Creating Valuable Insight. Powering Precision Medicine.

iPhronesis™ is a machine learning-based, knowledge automation analytics platform for the Life Sciences and Healthcare industries to generate real world data through visualizations and one-click customizable reports. iPhronesis is used in clinical genomics, real world evidence and Personalized and Precision Medicine applications to derive insights from otherwise 'hidden' data.

iPhronesis integrates all aspects of research and diagnostics across databases, both structured and unstructured, raw/uncurated data and provides powerful workflows using the latest analytics and visualization technologies. At the core is a BioNLP-powered knowledge automation engine framework for creating meaningful structured corpora that allows for easy querying, leveraging natural language. iPhronesis supports biomedical data, ranging from genomics and proteomics, publications, protocols, drugs, pathways, clinical lab reports and EMR/EHR records and much more.

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## iPhronesis™ Key Components:

### ❖ **Data Analytics for Precision Medicine research**

- ✦ Connects clinical work and research data seamlessly
  - ▲ Integrates medical records, bioinformatics databases, imaging systems (image atlases, RIS/PACS)
- ✦ Predefined Reports & Visualization Tools
- ✦ One-click customizable reports

### ❖ **A modular approach to Predictive Analytics**

- ✦ Data Aggregation (EMR/EHR, 100+ interfaced data sources, etc.)
- ✦ Knowledge Automation (curate millions of publications, machine learning, NLP querying for ease of use)
- ✦ Customizable Workflows

### ❖ **Secure Workflow**

- ✦ Authenticity validators
- ✦ HIPAA compliance

❖ **Disparate data source integration:** Works with SQL, CSV/TSV, XML, JSON, BSON etc.

❖ **Scalable Data store:** SQL and NoSQL Databases

❖ **Advanced Deployment:** Cloud

❖ **Mobility interfaces**

❖ **Advanced Technology Core:** Big Data environment, Python, Scala, REST APIs and many more

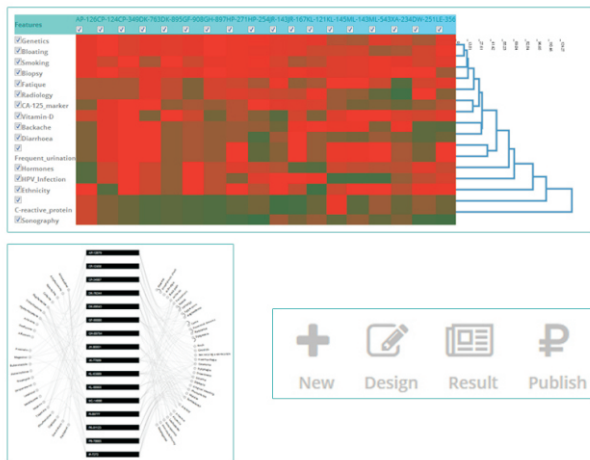
❖ **Professional services:** Seamless enterprise integration

# iPhronesis™ Knowledge Automation and Analytics Applications

## ❖ Clinical Genomics

Develop clinical grade workflows, integrate with reference databases and generate complex pipelines with extreme scalability for genomics applications.

- ✦ Cancer Genomics
- ✦ Diagnostic Odyssey
- ✦ Genotype- Phenotype Studies
- ✦ Text mining powered advanced interpretations
- ✦ Interactive Pathway Mapping
  - ✦ NGS Variants Analysis with Ontologies, Semantics & Taxonomies



## ❖ Digital Drug Discovery

Reduce the time for drug discovery using advanced data models and visualizations and connect to data from valuable sources such as EMR and many more.

- ✦ Drug Repurposing
- ✦ Drug Discovery
- ✦ Cohort Design
- ✦ Smart Clinical Trial Design
- ✦ Efficacy & Toxicity Prediction

## ❖ Evidence-based Medicine

Instantly cross-link data from multiple systems, generate insights and provide actionable items for:

- ✦ Longitudinal Patient Views
- ✦ Clinical Decision Support System
- ✦ Evidence Based Medicine
- ✦ Precision Medicine
- ✦ Personalized Cancer Treatment
- ✦ Regulatory Compliance Policy Design
- ✦ Health data predictions

