Intellegens

Introduction to Intellegens at IDMBAT

About

Machine learning software to aid experimental design

Merge and aggregate all sources of data: experimental, computational, and analytical

Predictive models **reduce costs** and **accelerate discovery** process

Traditional experimental design

Process is expert driven, subjective, and iterative through trial and improvement

Process takes ~20 years and specialist alloys cost >$10m to develop, drugs cost >$1bn

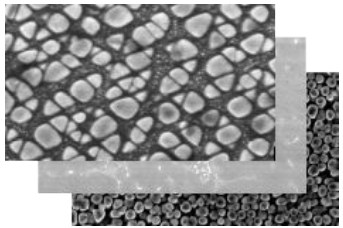
Alchemite™ optimized design process

Alchemite™ predicts from available inputs: property-property correlations and computer simulations

Reduce costs - 90% reduction in experiments and fewer measurements for expensive quantities

Accelerate discovery and validation to 2 years

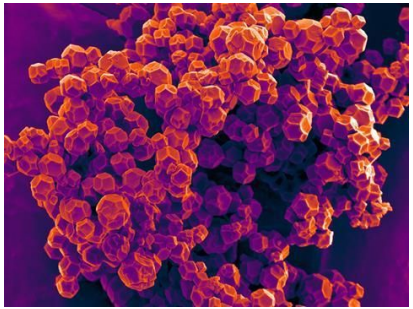
Materials designed



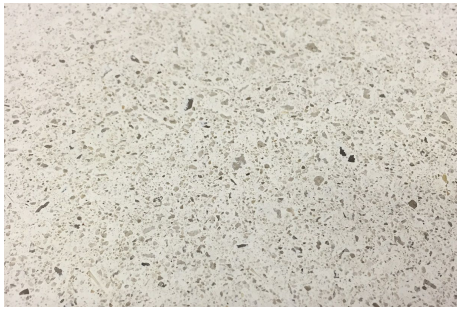
Nickel & moly alloys

Batteries

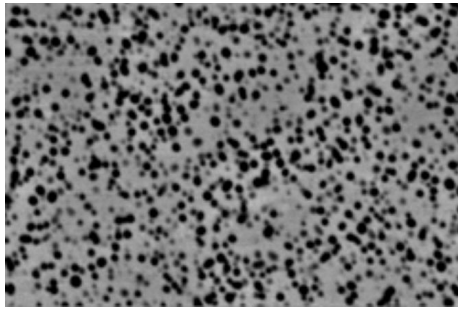
Steels of welding



Metal-organic framework



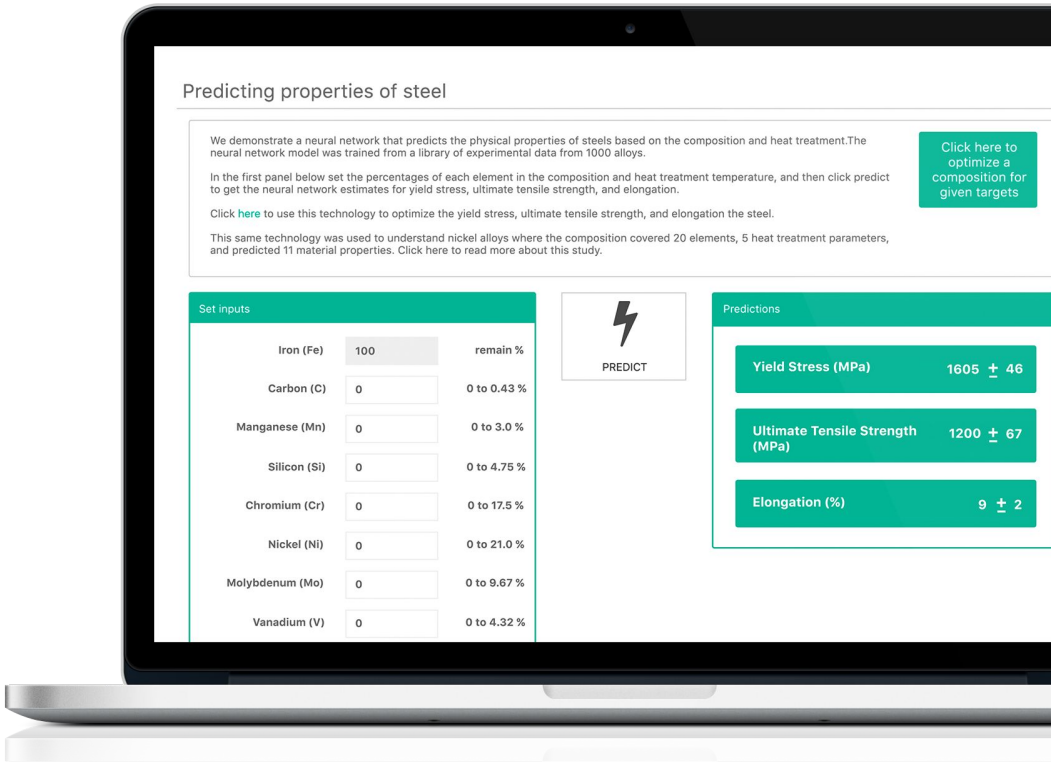
Concrete



3D printing

Future opportunities: Integrated software

1. Load data
2. Training
3. Design



Machine learning for materials design

Merge sparse databases to deliver deep insights into new materials

Designed and experimentally verified alloys, chemicals, and drugs

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Demo	https://app.intellegens.ai/steel_optimise
Papers	https://www.intellegens.ai/paper.html