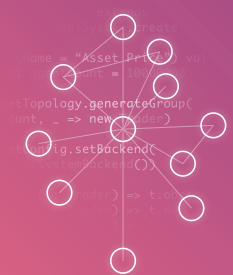
Future proof your bank with computational simulation

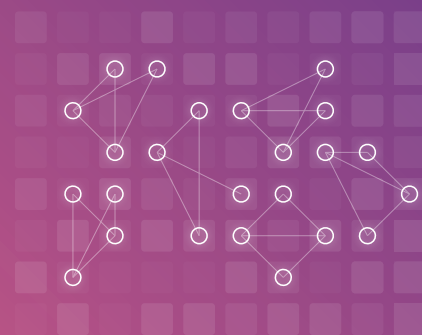
SIMUDYNE

MODEL
Design the behaviour of your **model** to represent the constituent parts of real world systems from people and their transactions, to banks and larger entities.

DEPLOY
Connect models, choose data sources and **deploy** on-premises or cloud in a secure, scalable environment, optimised for financial enterprise.

EXPERIMENT
Simulate your model over millions of scenarios in the **experiments** console. Explore the drivers of tipping points, or output data to another tool.





Simudyne is ground breaking technology that is currently being leveraged across **Barclays**, and enables us to model multiple scenarios on huge data sets, so we can understand our risk, exposure and options.

Jes Staley
Barclays Group CEO

Simulation is a tool for the curious. It allows us to explore different scenarios and see where the sensitivities, tipping points, and knife-edges of risk lie.

Computational simulations are imitations of systems and patterns from the real world. We use them to explore and test decisions. For a bank, we can study what happens if depositors withdraw their funds, if the central bank changes policy, or if the bank were to change its pricing strategy.

These types of what-if scenarios are very hard to explore using traditional approaches. Computational simulation gives decision-makers the ability to move beyond knowledge of the past towards making wise decisions for the future.

Advances in complexity science and computational power have put scalable simulation in the hands of enterprise. With **Simudyne**, you can model a huge number of scenarios, explore multiple potential futures and make better decisions in real-time.

Use cases in financial services

- **Credit Risk**: account for supply chain dependencies
- **Stress Testing**: generate thousands of scenarios
- **Customer Insights**: capture customer heterogeneity
- **Systemic Risk**: model crisis dynamics and spillover effects

Agent-based risk management

Agent-based modelling is well-suited to exploring the real-world complex adaptive systems present in finance.

Millions of agents can represent people, securities, households, or any other entity. These models account for the differences in the situations and behaviours of those agents which have important effects in the real world. As the agents interact, their micro-level behaviour produces macro-level outcomes. Decision makers can explore the consequences of their decisions in a safe, virtual environment, before choosing the best path forward in the real world.