

Using AI and machine learning with Quantexa

Through the creation of entities and networks, Quantexa provides the context you need to make better decisions. Leveraging AI and machine learning within each capability of its platform, Quantexa uses network visualization to offer an explainable and transparent approach, enabling you to build stronger machine learning models.



Supporting the journey to better models

Using the same underlying data layer, Quantexa supports multiple use cases from a single platform. Consisting of four core capabilities, the platform uses AI and machine learning to deliver better decisions and to make these fully transparent and accessible to your end users.

1

ENTITY RESOLUTION

Unify your data

Quantexa creates a dynamic single view of entities by bringing together internal and external data from multiple sources.

Using extensive business knowledge, Quantexa optimizes best-of-breed matching that considers positive and negative logic for linking. Quantexa's entity resolution is transparent so analysts can easily understand why entities were matched.

In addition, Quantexa can build analytics models to determine the most accurate compounds to use and which thresholds to apply.

2

NETWORK GENERATION

Connect the dots

Quantexa builds full customer context by identifying the relevant nodes and edges. These networks drive efficient and effective investigations by automatically compiling relevant and reliable connections.

By considering characteristics such as cognitive limits, Quantexa builds effective networks that describe real-world relationships.

A network view makes it possible to uncover suspicious behavior that would not be possible to see on a transactional basis.

3

ADVANCED ANALYTICS

Drive better decisions

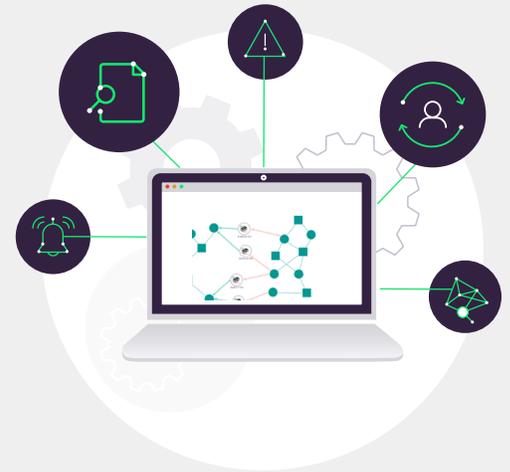
By leveraging entity and network views, Quantexa has proven it can efficiently build features that enhance the performance of AI and machine learning models.

Quantexa's platform follows a micro-service architecture based on open source technologies, allowing seamless integration with machine learning libraries to build and deploy models.

Applying supervised and unsupervised learning, you can model risk and anomalies across your data by looking for shapes of transactional flows that indicate risk which can't be identified when looking at transactions independently.

Network visualization

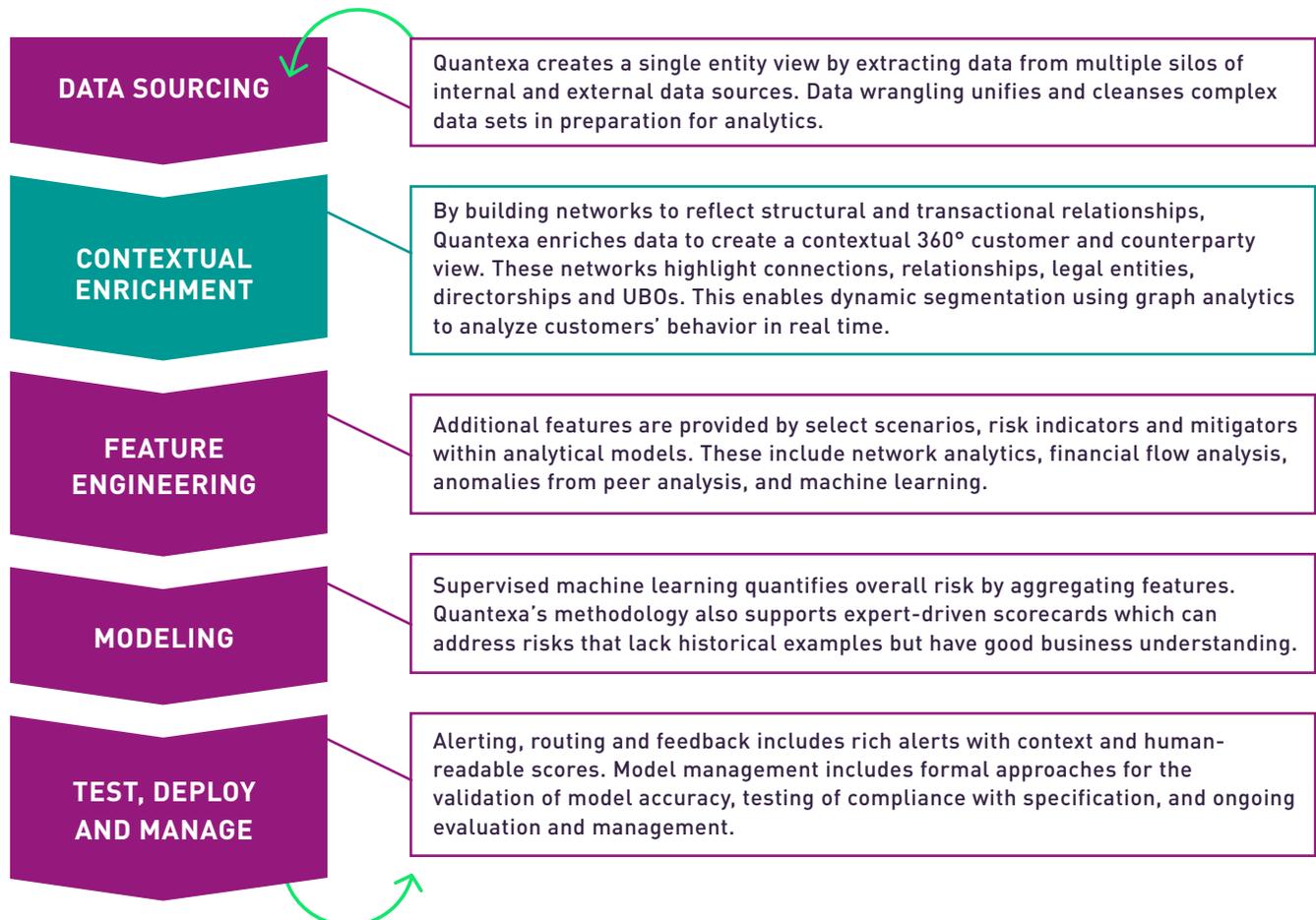
To successfully implement and understand context-driven machine learning, organizations require network visualization to explain the results. An intuitive navigation helps to make sense of large volumes of data, visualizing the risk and opportunities on the network, all within one place, so algorithms can easily be understood. This enables the investigators and algorithms to access the same information, resulting in a transparent and white-box approach to AI and machine learning.



Enhancing machine learning

Context enables better machine learning. Quantexa supports building predictive models by using contextual enrichment to help you build better features. By adding an additional step to enrich data, Quantexa provides context which delivers greater model uplift than improved machine learning algorithms alone.

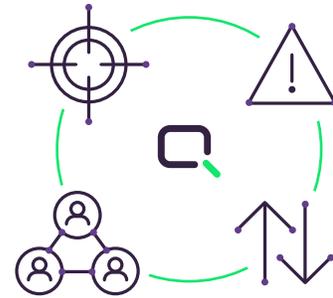
The traditional machine learning workflow remains core to Quantexa's approach. However, in use cases such as financial crime where target cases are relatively rare, feature engineering using business knowledge is critical.



Preferred methodology and recommended algorithms

Quantexa’s methodologies focus on proven, open models that can be easily explained in a governance process. These methods perform simpler and more effective aggregation of the input features to estimate an overall risk, resulting in a significantly lower volume of cases.

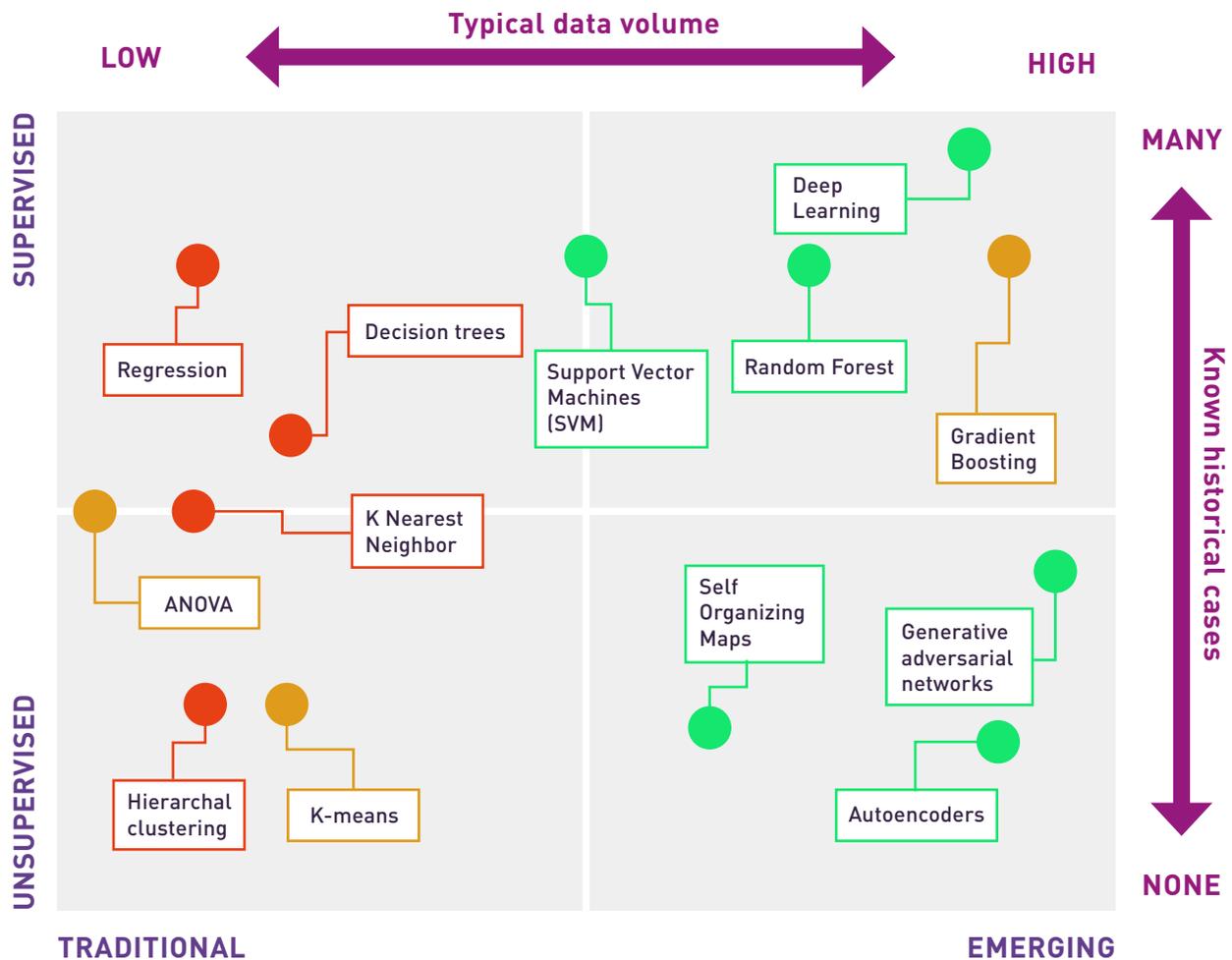
Using strong business knowledge, Quantexa creates features that are highly indicative of risk and can build effective machine learning models, even with limited target volumes. For emerging risk, with no or few previous known cases, Quantexa uses unsupervised machine learning techniques to identify abnormal behavior.



Supported algorithms

The Quantexa platform’s open API approach ensures that a wide set of open source and proprietary machine learning algorithms can be leveraged, improving accuracy with wider context. Our architecture supports the building, deployment and reporting on models. By creating context, Quantexa improves all effective machine learning algorithms.

Quantexa uses and supports the following algorithms:



- Critical method within Quantexa detection methodologies
- Used method within Quantexa detection methodologies
- Supported method



The journey to supervised machine learning

Supervised machine learning (also known as predictive) uses historic cases to statistically identify patterns. However, certain use cases, such as anti-money laundering, may have very few previously known examples. The following journey can be used when predicting risk for these use cases.

1

Expert-driven scorecard

Using joint knowledge, Quantexa identifies the patterns expected to relate to interesting cases and aggregate the risk through a proven approach of building an expert-driven scorecard. This provides investigators with the cases they expect to find useful.



2

Analytically tuned expert scorecard

With a reasonable number of alerts reviewed and many escalated, weights and thresholds can be tuned. Quantexa augments the business knowledge with reports on the observed outcomes, resulting in improved hit rates.



3

Supervised model combined with expert scorecard

When enough alerts have been reviewed and hundreds of escalations achieved, machine learning models can be trained. This optimizes alerting for hit rate, while still leveraging expert knowledge to cover all risks.

About Quantexa

Quantexa's Contextual Decision Intelligence platform is a new approach to data that gives organizations the ability to connect internal and external data sets to provide a single view, enriched with intelligence about the relationships between people, places and organizations.

Our platform dynamically generates the context needed to automate millions of operational decisions, at scale, across multiple business units, including Anti-Money Laundering, Fraud, Credit Risk and Customer Intelligence.

Quantexa is a global business with offices in London, New York, Boston, Belgium, Toronto, Singapore, Melbourne and Sydney. For more information, visit: www.quantexa.com

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