

XAI *Consulting & Solutions*

*eXplainable AI for regulated financial services.
human-centric. sustainable.*

**We create customised AI solutions for
financial institutions and supervisors.**

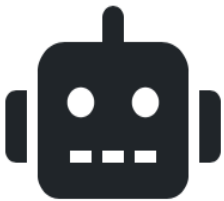
With our experience in **implementing AI solutions** and our
profound knowledge of the **regulatory model requirements in
the EU**, we help you navigate the ever changing
technological landscape and take you to the next level.

Our way

Artificial Intelligence (AI) enables organisations to work faster and smarter thereby achieving more with significantly less effort. Thousands of organisations worldwide are already using AI to increase their productivity and efficiency with amazing results.

XAI Approach

We enhance the traditional AI workflow by several Explanation Technologies (XAI). These technologies enable a human-centric AI approach as they explain the ,why' of the Machine Learning (ML) model. Thereby we establish a feedback mechanism for a more accurate, sustainable utilisation of AI.



Nature-inspired, scientific AI for complex data processing

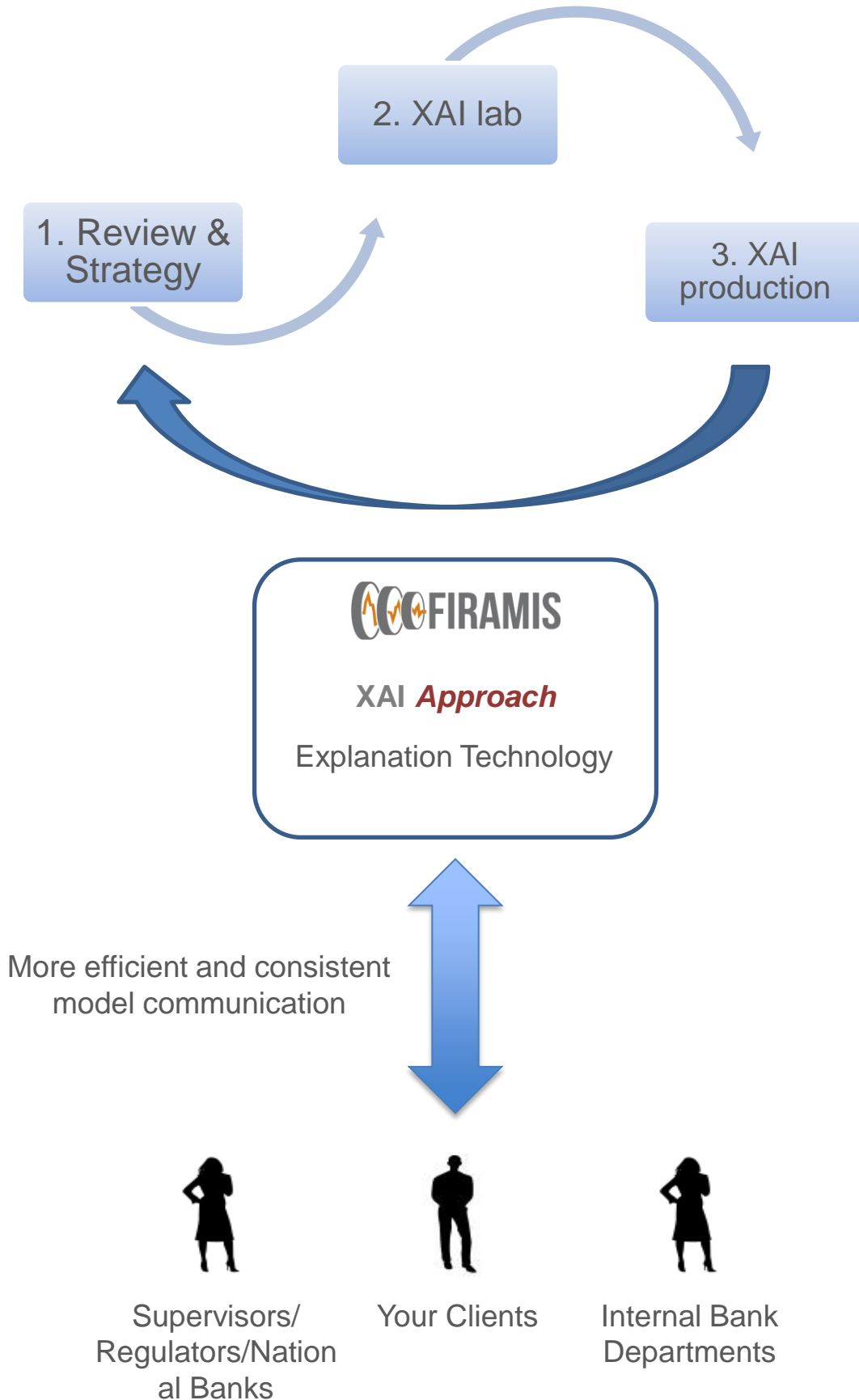


Visualisation algorithms to explain the machine's reasoning

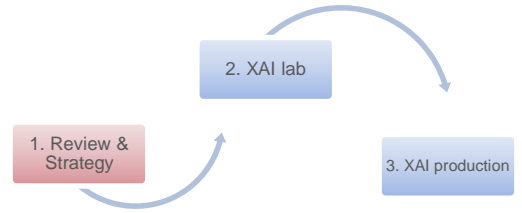


Already addresses future regulation and supervision of AI

Our workflow



1. Review & Strategy



Planning

- Assess the status quo with respect to organizational structure, processes, roles, data environment, IT system landscape
- Review capabilities and defining goals to make recommendations for tools and technologies

Use Cases

- Investments: recommendations, client risk profiling
- Credit scoring/rating/assessment
- Fraud Detection, AML, KYC, Market manipulation

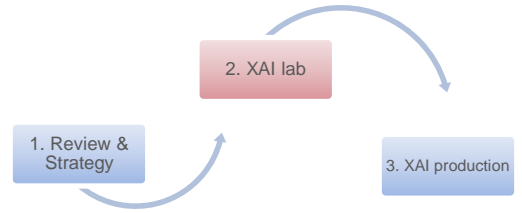
Strategy

- Analyse business strategy to apply the identified use cases
- Define digital business model
- Identify Risks and Opportunities
- Clearly understand the data success factors and best practices
- Define the level of sustainability and accuracy needed

Model

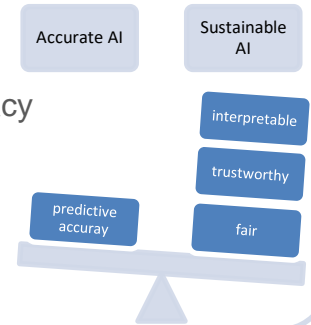
- Choice of AI/ML architecture
- Model specifications
- Development data set
- Treatments and assumptions
- Risk Management Approach
- Feature engineering

2. XAI Lab



Prototyping and Model Assessment

- Analytical concept with hypotheses for the use cases
- Model validation: Model assumptions, Hyperparameters, Accuracy, Precision, Robustness, Interpretability, Bias
- Model improvement
- Define Trade-off between accuracy and sustainability or even find win-win situation



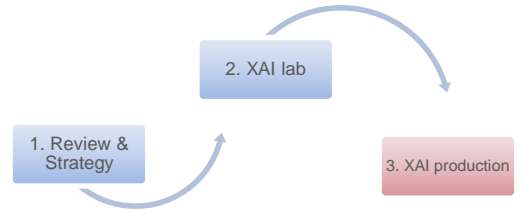
Technology mix

XAI Approach

- Systematically utilising open-source modules for fast prototyping, huge model variety and latest developments
- Explanation technology used for model interpretation, feature analysis and knowledge representation
- Making use of special algorithms for complex data and model visualisation



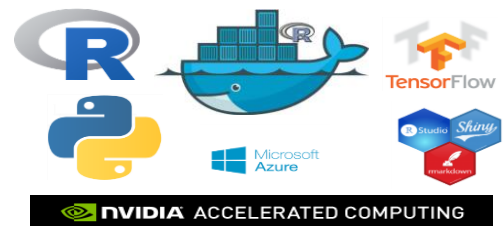
3. XAI Production



Programme/
Software
execution

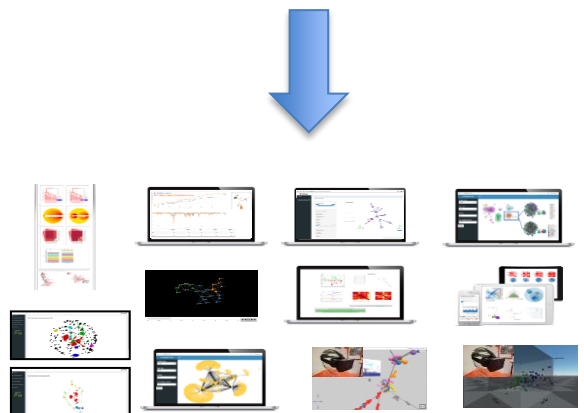
- Deployment in Cloud or On-Prem
- High-performance computing
- Monitoring and documentation
- Continuous improvement with the XAI Approach

Production and prototype environments are quite similar, using a smart mix of established open-source tools.



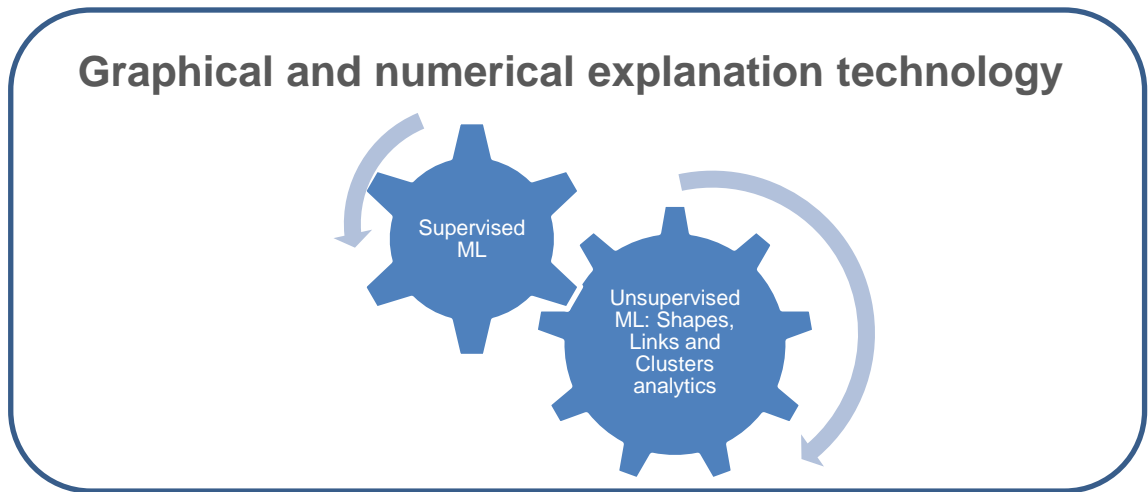
The XAI *Approach* supports also here:

- for model risk management and improvement
- for communication with stakeholders



Explanation technologies for insights and communication

The **XAI Approach** combines Machine Learning and Explanation Technology in a clever way.



In this way, new functionalities for model improvement and risk management are enabled:

- Four-eyes principle for AI
- Model Validation
- Controlling
- Model Governance
- Continuous Discovery and Learning

The model can be communicated to many internal bank departments and stakeholders:

- (Risk-)Management
- Compliance
- Corporate Governance
- Legal
- AI and Data Science Team
- Sales and Marketing

How we work with you

AI Consulting

We bring our expertise and software tools to support your AI and Data Science team. Our AI consulting can be on a strategic and planning level and goes as deep as joint coding projects.

Custom AI Software

We develop customised products and services for you and deploy them in the cloud so you can access them via dashboards or APIs. Here are two examples:

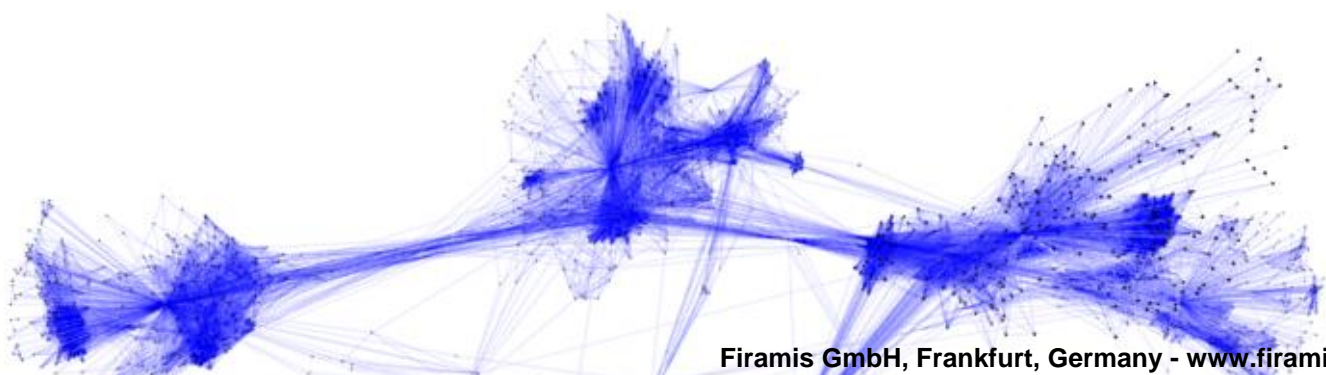
- [InvestTech](#)
- [RiskTech](#)



**SaaS with APIs for
integration into your
processes and digital
platforms**

Internal platform

We build interactive AI & Data Science Platforms with a special mix of software development tools for the internal utilisation in Financial Institutions.



Team



Dr. Jochen Papenbrock
Founder
Consultant
Researcher, Inventor and
Programmer



Dr. Dimitri Marinelli
EU-MSCA fellow
Mathematical Physicist
Data Scientist



Niklas Bussmann
Business Development Analyst
Master in Business
Administration
PhD candidate



Dr. Alla Petukhina
Financial Data Scientist
PhD degree in statistics
and econometrics



Lukas Zajonz
Pursuing his Master's Degree
in Information Systems
Machine Learning
Data analysis

ABOUT US

Firamis is a B2B FinTech company, building software applications powered by AI and Data Science for financial service companies in InvestTech, RiskTech, RegTech and SupTech since 2012.

Firamis is research-driven and specialised on supporting quantitative investment and risk management as well as fraud detection processes empowered by machine learning, financial data science and visualisation of complex information.

Our clients are asset managers, banks, insurance companies and other financial institutions. As a partner of numerous European universities and Fintechs we are supported by the European Commission through the FIN-TECH Horizon2020 project (<https://www.fintech-ho2020.eu>).

We are located in Frankfurt, the heart of Europe's Fintech landscape. As an ecosystem shaper we regularly organise meetups and events such as the Frankfurt Summit on AI, Big Data and Network analysis in Financial Services (<https://ai-bigdata.network>). Firamis is also founding member of the association AI in Financial Services (<https://www.aiinfs.com>).

www.firamis.de
hello@firamis.de

