AI IN AML

SMARTER DEFENSE.
SAFER FINANCIAL FUTURE.

SPEAKER
Daniël Meel

STRONGER DETECTION
Find what matters

SMARTER DECISIONS
Reduce false alerts

GREATER TRANSPARENCY
Explain with confidence

SAFER TOGETHER
Protect what counts

FORMS OF FINANCIAL CRIME

UNDERSTANDING THE THREATS. STRENGTHENING FINANCIAL INTEGRITY.

MONEY LAUNDERING

Concealing the origins of illegally obtained funds and making them appear legitimate.

TERRORIST FINANCING

Providing or collecting funds, directly or indirectly, for terrorist acts or organizations.

BRIBERY & CORRUPTION

Offering, giving, receiving or soliciting anything of value to improperly influence a decision or obtain an unfair advantage.

PUBLIC SECTOR CORRUPTION

Abuse of entrusted power for private gain involving public officials or institutions.

TAX EVASION

Illegally evading taxes by concealing income or assets or providing false information.

TAX AVOIDANCE

Legally minimizing tax liability by exploiting loopholes and using complex schemes.

SANCTIONS BREACH

Engaging in prohibited transactions with sanctioned countries, entities or individuals.

SANCTIONS EVASION

Circumventing sanctions through disguise, deception or using third parties to hide true ownership or origin.

TRADE-BASED MONEY LAUNDERING

Using trade transactions (e.g., over/under-invoicing, misdescription) to move and legitimize illicit funds.

VIRTUAL ASSET CRIME

Using cryptocurrencies and virtual assets to launder money, fund illegal activities or evade regulations.

FRAUD

Deception for financial gain, including identity fraud, investment fraud, invoice fraud and asset misappropriation.

PROLIFERATION FINANCING

Financing the spread of weapons of mass destruction and related materials or technologies.

THE MONEY LAUNDERING PROCESS

Illicit funds typically move through three key stages to become "clean".

1 PLACEMENT

Introducing illicit funds into the financial system.

CASH → BANK DEPOSIT → CASINO PURCHASE → BUSINESS REVENUE

2 LAYERING

Concealing the origin through complex transactions.

MULTIPLE ACCOUNTS → FUNDS TRANSFER → INVESTMENTS & TRADING → OFFSHORE ENTITIES

3 INTEGRATION

Reintroducing funds into the economy as legitimate assets.

REAL ESTATE → LUXURY GOODS → BUSINESS INVESTMENT → LEGITIMATE INCOME

WHY IT MATTERS

Financial crime fuels illegal activities, undermines economies and harms society.

- Threatens security and stability
- Distorts markets and economic growth
- Erodes trust in institutions
- Leads to legal, regulatory and reputational risk

Stronger controls. Smarter intelligence. Safer future.

AML BY BANKS: KEY ELEMENTS AT A GLANCE

A multi-layered defense against financial crime – protecting the institution, our customers and society.

WHAT IS AML?

AML (Anti-Money Laundering) is a set of processes, controls and technologies that help banks prevent, detect and report financial crime and comply with laws and regulations.

CORE AML OBJECTIVES

- Prevent financial crime
- Detect suspicious activity
- Protect customers and the bank
- Comply with laws and regulations
- Preserve financial system integrity

THE MAIN PILLARS OF AML

1. CUSTOMER DUE DILIGENCE (CDD)

Know your customer

Verify identity

Understand customer and purpose

Ongoing monitoring

2. TRANSACTION MONITORING

Monitor transactions in real-time and batch

Detect unusual or suspicious patterns

Use of rules, scenarios and analytics

3. RISK ASSESSMENT

Assess customer, product, country and channel risk

Apply risk-based approach (RBA)

Regularly review and update risk profiles

4. SUSPICIOUS ACTIVITY REPORTING (SAR)

Investigate and validate alerts

File SARs with FIU as required

Maintain clear audit trail and documentation

5. GOVERNANCE & CONTROLS

Strong policies and procedures

Independent oversight and testing

Training, culture and accountability

TYPES OF AML

- **Money Laundering** – Concealing the origin of illegally obtained money
- **Terrorist Financing** – Funding of terrorism and related activities
- **Proliferation Financing** – Funding of weapons of mass destruction
- **Sanctions Evasion** – Circumventing economic sanctions and embargoes
- **Other Financial Crime** – Fraud, tax evasion, bribery, human trafficking, etc.

KEY RISK AREAS

DETECTION & MONITORING

- Rule-based monitoring
- Behavioral analytics
- Machine learning & AI models
- Network analysis
- Sanctions & watchlist screening

ALERT LIFECYCLE

Detect → Triage → Investigate → Resolve → Report

ENABLERS & TECHNOLOGY

- Data quality & integration
- Scalable technology platforms
- Advanced analytics & AI
- Automation & workflow
- Case management & audit trail

REGULATORY LANDSCAPE

Key global standards and regulations

- FATF Recommendations
- EU AMLD 6
- UN Sanctions
- Local Regulations

SUCCESS FACTORS

- Strong data and technology foundation
- Skilled people and clear accountability
- Effective governance and independent oversight
- Continuous monitoring, testing and improvement
- Risk-aware culture and tone from the top

AML EVOLVING: STRONGER RULES. STRONGER TOGETHER.

Regulatory convergence. Technological evolution. A safer financial future.

WHO ARE THE GATEKEEPERS?

Designated by the EU AML framework as obliged entities with a critical role in preventing financial crime.

KEY CHANGES: 6AMLD, AMLR & THE CREATION OF AMLA

A new era of stronger, smarter and more harmonised AML/CFT supervision in the EU.

6AMLD

Stronger rules, better transparency

- Expanded list of obliged entities (e.g., crypto-asset service providers)
- Enhanced customer due diligence and beneficial ownership transparency
- Stricter requirements on politically exposed persons (PEPs)
- Tighter measures on sanctions circumvention
- More effective, dissuasive and proportionate supervision and penalties

AMLR

Single rulebook, consistent application

- Directly applicable EU regulation – no national transposition
- Harmonised AML/CFT requirements across the EU
- Risk-based approach strengthened and clarified
- Stronger governance, data and reporting obligations
- Enhanced requirements for CDD, record-keeping and third-country risks

AMLA

Stronger supervision, European oversight

- Independent EU Authority based in Frankfurt
- Direct supervision of high-risk financial entities
- Support and coordination of national supervisors
- Binding decisions and enforcement powers
- Common tools, IT systems and data hub for better information sharing

THE ANTI-MONEY LAUNDERING AUTHORITY (AMLA)

A new EU Authority to ensure effective, consistent and coordinated supervision across the Union.

SUPERVISE
High-risk entities across the EU

HARMONISE
Supervisory practices and convergence

COORDINATE
National authorities and information sharing

ENFORCE
Common rules with real impact

A UNITED FRONT AGAINST FINANCIAL CRIME

Stronger rules. Consistent supervision.
Shared data. Greater impact.
For a trusted and secure financial system.

THE IMPACT OF INCREASED AI USE IN AML

Opportunities come with new challenges. Understanding the implications is key to responsible adoption.

AI TRANSFORMS AML
Greater efficiency, scale and intelligence

NEW RISKS EMERGE
Technology, behavior and adversaries evolve

ACTION IS REQUIRED
Adapt controls, governance and capabilities

KEY IMPLICATIONS FOR AML

1 DISPLACEMENT OF (JUNIOR) ROLES

Automation of routine tasks reduces demand for entry-level analysts and manual reviewers.

Impact:
Workforce transition and reskilling required.

2 INCREASED FRAUD AND ABUSE

Criminals leverage AI for synthetic identities, deepfakes, and automated money laundering at scale.

Impact:
Higher volumes and more sophisticated threats.

3 MODEL RISK AND OPACITY

AI models can be complex, opaque and behave unpredictably in certain scenarios.

Impact:
Harder to validate, explain and trust outcomes.

4 DATA PRIVACY AND ETHICS RISKS

More data usage increases risk of privacy violations and ethical concerns.

Impact:
Regulatory, reputational and legal exposure.

5 OVER-RELIANCE AND AUTOMATION BIAS

Over-trusting AI decisions can lead to missed risks and reduced critical thinking.

Impact:
False sense of security and poor judgement calls.

6 REGULATORY AND SUPERVISORY SCRUTINY

Regulators expect more transparency, explainability and strong governance.

Impact:
Higher compliance burden and expectations.

7 ADVERSARIAL AI ARMS RACE

AI enhances both the defense and offense—fueling a continuous evolution of attack methods.

Impact:
Models and controls can quickly become outdated.

8 THIRD-PARTY AND SUPPLY CHAIN RISK

Dependence on AI vendors and external models introduces new concentration and resilience risks.

Impact:
Operational disruption and outsourcing risk.

9 ALERT FATIGUE 2.0

Poorly designed AI can create noisy or irrelevant alerts at machine speed.

Impact:
Lower analyst effectiveness and burnout.

10 ENERGY AND SUSTAINABILITY COST

Large AI models require significant computing power and energy consumption.

Impact:
Higher costs and environmental footprint.

HOW TO RESPOND

- Invest in people and upskilling
- Build robust model governance
- Strengthen data quality and privacy
- Maintain human oversight
- Monitor emerging threats
- Collaborate with regulators and peers

FROM BPM WORKFLOWS TO AI AGENT ECOSYSTEMS

Evolution of work: from manual steps to intelligent agents

WORKFLOW PROCESSES designed according to BPM principles

COMPOSED OF MULTIPLE STEPS involving people, systems and decisions

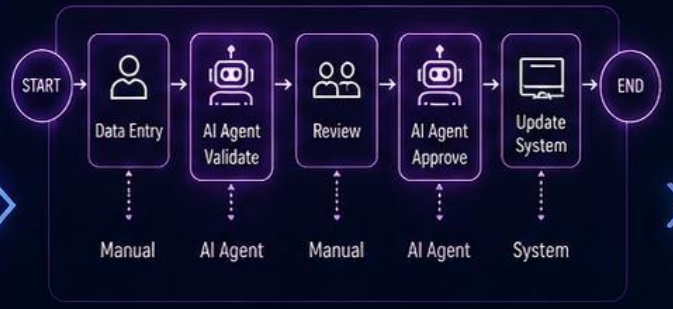
STEPS ARE INCREASINGLY REPLACED BY AI AGENTS that think, act and adapt

THE PROCESS BECOMES A CHAIN OF AI AGENTS delivering intelligent outcomes

1. AS-IS: TRADITIONAL BPM PROCESS

- **HIGH MANUAL EFFORT** — Prone to errors and delays
- **LONGER CYCLE TIMES** — Waiting and handoffs
- **INCONSISTENCIES** — Across steps and systems

2. TRANSITION: HUMAN + AI AGENTS



- **AI HANDLES ROUTINE TASKS** — Faster and more accurate
- **HUMANS FOCUS ON EXCEPTIONS & DECISIONS**
- **IMPROVED SPEED AND QUALITY**

3. FUTURE: END-TO-END AI AGENT CHAIN

KEY AML CHALLENGE: AI AGENT DECIDE

Under AMLR, GDPR and the AI Act, this step raises critical requirements for explainability, human oversight, data protection and risk management – making automation of decisioning a major compliance challenge.

- AMLR
- GDPR
- AI ACT

- **FULLY AUTONOMOUS** — End-to-end execution
- **REAL-TIME DECISIONS** — Adaptive and context-aware
- **CONTINUOUS LEARNING** and optimization

THE FUTURE IS AGENTIC

Processes are no longer just automated — they are orchestrated by intelligent agents working together.

BUSINESS BENEFITS

- **HIGHER EFFICIENCY** — Faster execution, lower costs
- **BETTER ACCURACY** — Reduced errors, consistent outcomes
- **GREATER AGILITY** — Adapt quickly to change and demand
- **STRONGER COMPLIANCE** — Built-in controls and auditability
- **SCALABLE BY DESIGN** — Easily extend with new agents

1 TRUSTED NETWORK OF GATEKEEPERS

Powering secure information exchange using PET (MPC)

Privacy by design. Data stays with the source. Insights are shared.

2 CUSTOMER-CONTROLLED IDENTITY

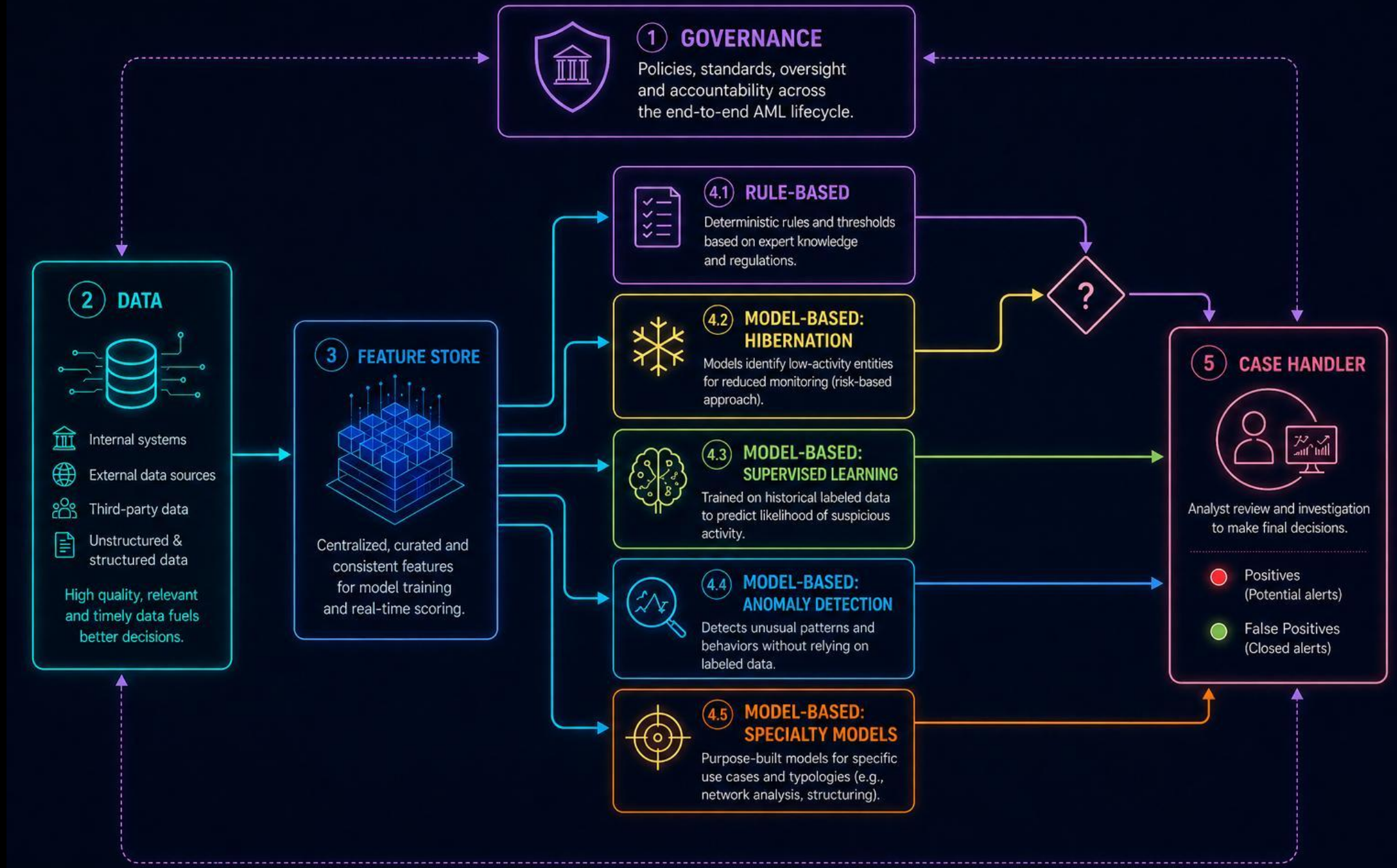
Digital identity in the customer's wallet

3 AGENTIC AI: INFORMATION GATHERING

Autonomous agents collect, verify and structure information

4 THE FUTURE: CONNECTED, INTELLIGENT, TRUSTED

Agents collect data from customer wallets (with consent)
and securely share insights across the trusted network


1 GOVERNANCE
Policies, standards, oversight and accountability across the end-to-end AML lifecycle.
2 DATA
Internal systems
External data sources
Third-party data
Unstructured & structured data
High quality, relevant and timely data fuels better decisions.
3 FEATURE STORE
Centralized, curated and consistent features for model training and real-time scoring.
4.1 RULE-BASED
Deterministic rules and thresholds based on expert knowledge and regulations.
4.2 MODEL-BASED: HIBERNATION
Models identify low-activity entities for reduced monitoring (risk-based approach).
4.3 MODEL-BASED: SUPERVISED LEARNING
Trained on historical labeled data to predict likelihood of suspicious activity.
4.4 MODEL-BASED: ANOMALY DETECTION
Detects unusual patterns and behaviors without relying on labeled data.
4.5 MODEL-BASED: SPECIALTY MODELS
Purpose-built models for specific use cases and typologies (e.g., network analysis, structuring).
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5 CASE HANDLER
Analyst review and investigation to make final decisions.
Positives (Potential alerts)
False Positives (Closed alerts)

GENERATIVE AI IN AML

USE CASES THAT DRIVE VALUE. RISKS THAT DEMAND ATTENTION.

GENAI USE CASES IN AML

Unlock productivity. Enhance intelligence. Empower your people.

AUTOMATED SUMMARIES
Generate concise summaries of alerts, transactions, customer profiles and investigations.
→ Faster reviews, better focus on what matters.

INTELLIGENT AGENTS
AI agents that retrieve, correlate and process information across internal and external sources.
→ More complete information, less manual work.

RESEARCH & REGULATORY Q&A
Instant answers to AML policy, regulatory and typology questions with cited references.
→ Consistent answers, stronger compliance, less time searching.

CASE DRAFTING SUPPORT
Draft case narratives, describe activity patterns and recommend next steps.
→ Higher quality cases, faster case closure.

PATTERN & NARRATIVE GENERATION
Identify emerging typologies and generate scenario narratives from unstructured data.
→ Earlier detection, better understanding of evolving risks.

TRAINING & KNOWLEDGE ASSISTANT
Create training content, job aids and explain complex AML concepts.
→ Upskill teams, strengthen expertise at scale.

EMERGING RISKS AMPLIFIED BY GENAI

New threats. Greater scale. Stronger controls required.

FRAUD WITH FAKE DOCUMENTS
Highly realistic synthetic documents (IDs, statements, certificates) to open accounts or bypass checks.
→ Harder to detect, higher onboarding risk.

IDENTITY FRAUD
Synthetic identities and deepfakes used to create or takeover identities.
→ More sophisticated impersonation, greater fraud losses.

SOCIAL ENGINEERING AT SCALE
AI-generated messages and voice cloning to manipulate customers or employees.
→ Increased success of scams and insider risk.

ADVERSARIAL ATTACKS ON MODELS
Attackers use GenAI to test, probe and evade detection models.
→ Model evasion, reduced detection effectiveness.

AML PROCESS ABUSE
Use of GenAI to generate false explanations, fabricate source of funds/wealth or manipulate case outcomes.
→ Weaker decisions, compliance and reputational risk.

DATA & CONFIDENTIALITY RISKS
Unintended exposure of sensitive customer data through prompts or model outputs.
→ Privacy breaches, regulatory consequences.

HUMAN + AI — Better together

RESPONSIBLE AI — Governed. Transparent. Accountable.

STRONGER AML — Smarter decisions. Better outcomes.

SAFER FINANCIAL SYSTEM — Protecting customers and society.


JOBLESS
UNEMPLOYMENT 45%
JOBS LOST 12,000,000

MUHAMMAD IBN MUSA AL-KHWARIZMI

THE FATHER OF ALGEBRA AND ALGORITHMS

c. 780 – c. 850
Born in Khwarizm (in present-day Uzbekistan)

Scholar at the House of Wisdom
in Baghdad, during the Islamic Golden Age

Mathematician, astronomer, geographer and scholar

> He combined keen intellect with a systematic approach to solving problems—in mathematics and in life.

A LASTING LEGACY

Al-Khwarizmi's work laid the foundations for modern mathematics, computer science and problem-solving across disciplines.

MATHEMATICS | COMPUTER SCIENCE | ASTRONOMY & GEOGRAPHY | EDUCATION & KNOWLEDGE SHARING

HIS KEY CONTRIBUTIONS

Al-Jabr wa'l-Muqabala

A groundbreaking book on solving linear and quadratic equations.

- Systematic methods
- Step-by-step solutions
- General principles

Linear Equation $ax + b = c$

Quadratic Equation $ax^2 + bx = c$

Zij al-Sindhind

Accurate astronomical tables that advanced navigation, timekeeping and astronomy.

THE ORIGIN OF THE WORD ALGORITHM

From the Latinized form of his name Algoritmi (al-Khwarizmi)

It came to mean "a set of rules" followed step-by-step to solve a problem or perform a task.

THE ORIGIN OF THE WORD ALGEBRA

From the Arabic word "al-jabr" (restoration, completion, balancing)

The core concept in his book Al-Jabr wa'l-Muqabala.

A BRIDGE THROUGH TIME

Al-Khwarizmi
9th Century

→ His works translated into Latin (12th Century)

→ Spread across Europe

→ Inspired generations of mathematicians, scientists and thinkers

→ Foundation of modern algorithms, algebra and computer science

> He turned knowledge into a system.
> He turned numbers into understanding.
> He turned ideas into the future.
>
> His legacy continues—in every algorithm, every equation, every solution.

CURIOSITY — The spark of discovery.

METHOD — Turning complexity into order.

KNOWLEDGE — To understand the world.

LEGACY — To shape the future.

TIMELESS IMPACT — Inspired for more than a millennium.


THANK YOU