

KOMIX 

ERIAN
Make Better Decisions



Digitization of risk management with ERIAN

B2B Workshop - Haag

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KOMIX introduction

- » Czech company founded in 1992
- » Software house and system integrator with comprehensive offer
- » Size: approx 150 colleagues



SW development



Data and application integration



Data analyses and reporting



Security



SW testing



Business proven BRMS system ERIAN

Trends changing the current risk management model ...

... and making digitization a must-have

Trends transforming the finance industry

Impact on risk management (examples)

Changing customer expectations



Customer demand for mobile and on-line experience.

Internal users of risk reports have rising expectations of quality and timelines

Growing importance of strong data management and advanced analytics for staying competitive



Robust customer differentiation and automated risk decision capabilities

Early warning detection techniques, to identify potential losses.

New challengers driving business-model disruptions



Risk management is critical in enabling incumbents to compete with fintech companies

Increasing pressure, especially from fin-tech on costs and returns



Return of equity for global banking remains below cost of capital

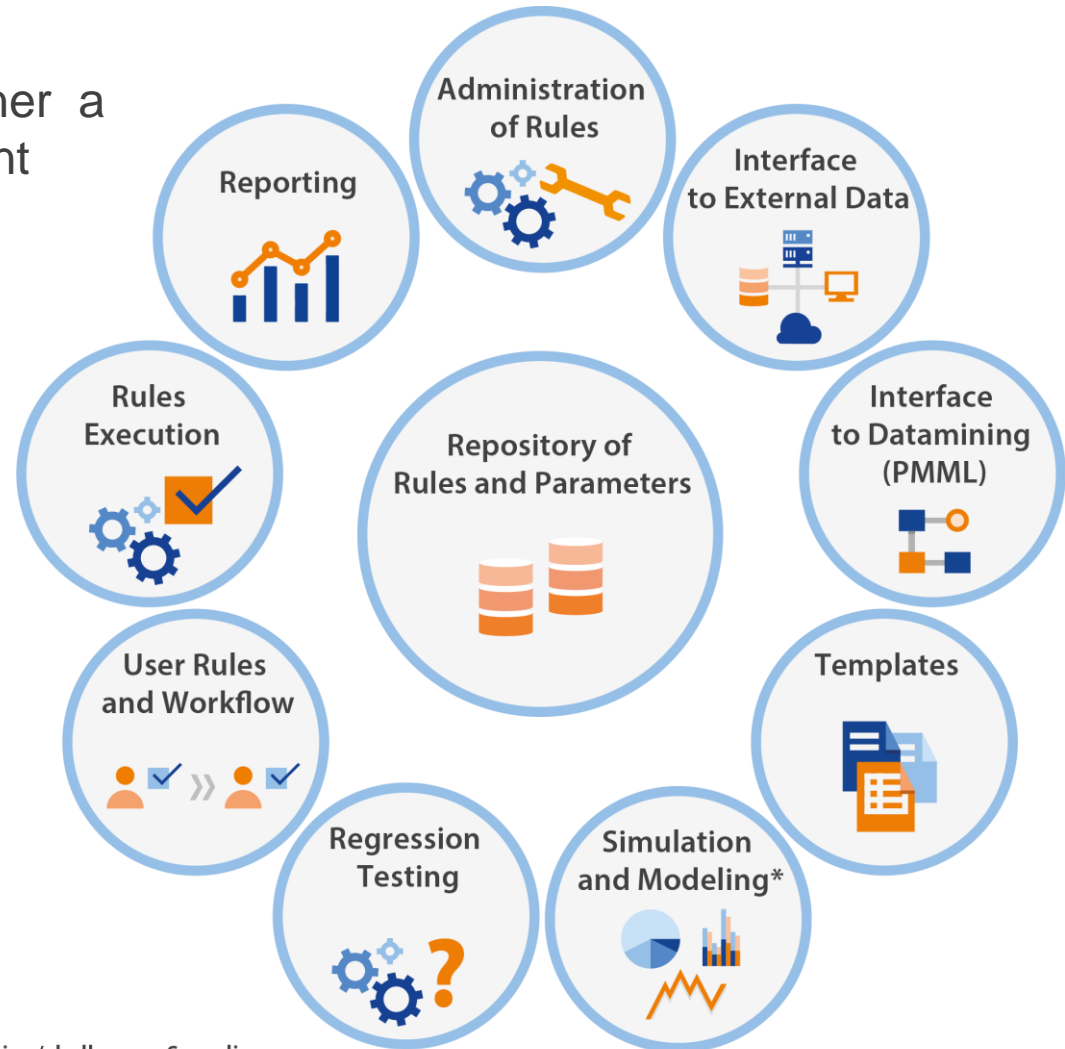
Areas where digitization create the most value

■ >10% of current baseline
 ■ 5–10% of current baseline
 ■ <5% of current baseline
 ! Potential priority area



What is ERIAN?

ERIAN is according to Gartner a Business Rules Management System (BRMS).



*Champion/challenger, Sampling

Possible application of ERIAN

- » Fraud detection
 - » Credit fraud (banking plus non-banking)
 - » Leasing fraud
 - » Insurance fraud
- » Further areas of finance
 - » Scoring
 - » Rating
 - » Limit management
 - » Transactions Compliance (AML, ...)
- » Non-finance areas
 - » Retail, 1-to-1 marketing
 - » Dynamic pricing
 - » Provisions calculations
 - » Product configurations
 - » and many more

Automated decision making key component of new risk mgmt.



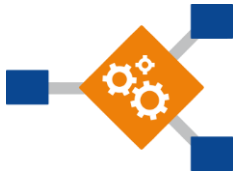
Advantages of automated decision making in comparison to manual processing

- » **Efficiency** – formalized part of the decisions made through the Decision Engine. Expert is so released from routine work.
- » **Consistency** – always applied all relevant rules, consistent decisions in seconds. Limited internal fraud.
- » **Auditability** - to every decision, recording of rules used (justification of the decision).
- » **Protection of knowledge** - against loss due to fluctuations and against misuse due to internal fraud.

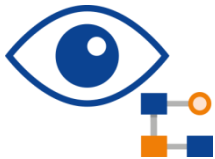
Key parameters of automated decision making

- » **The decision-making model** – complex decisions require a combination of knowledge of all types - expert, ad-hoc analysis, statistical models.
- » **Flexibility** – risk patterns are changing rapidly and so there is a strong need for flexibility to adjust decision-making model.
- » **Credibility** – proof of the quality of rules and thorough rationale for each decision are required.
- » **Performance and scalability** – decision making system often suffer from decreasing performance with growing transaction volume and complexity of decision-making model.

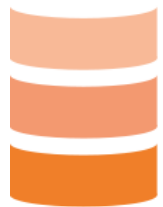
ERIAN – main characteristics



Performs autonomous decisions with high erudite and high quality in a real time. Rules based on data, statistics and datamining **allow expressing real world knowledge.**



Support for manual decision process, providing the decision maker (risk expert) with the most valuable and relevant information and reasoning of preceding automatic decision process.

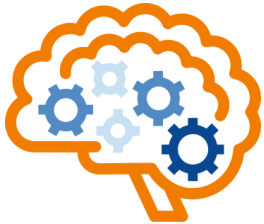


Integration with all internal and external data sources, utilizes existing computations such as Client's Probability of Default, Loss Given Default ,



Assessment of rules quality by testing and simulation of developed rules on historical data including various what-if analyses, detailed statistics of rules processing, etc.

ERIAN – key advantages



Quality of decision-making – ability to integrate multiple agendas (Fraud, Scoring, ...), combination of mathematical models and expert experience, transparent system of rules, reasoned decisions



Speed – instant decisions, millions of operation during a very short time slot. Guaranteed performance due to management of depth and width of the assessment



Flexibility – simple and fast changes of rules, utilizing aggregated or otherwise derived items and indicators, data sources, etc. without the need for IT support.

Business benefits of ERIAN implementation

- » More precise decisions. Creation and optimization of decision rules. Based on that more flexible and agile business processes.
- » Smooth process of closing contracts, changing contracts or transaction execution for good customers, without any delays.
- » Reduction of the load of Risk department staff through offloading majority of decisions to the automated decision tool.
- » Reduction of the burden on the IT department's because the rule changes are be implemented in risk department.

References ERIAN 1/2

» First Credit Bureau of Ukraine

- » Risks of loan applications
- » 150 rules
- » Historical applications stored and taken into account

» Vostok Finance Group (Ukraine)

- » Optimizing of collections
- » 10 complex decision trees
- » 700 Tsd. evaluations / 10 minutes

» Vojenská zdravotní pojišťovna - health insurance company

- » Verification and validation of provided medical care declarations
- » 140 complex rules
- » 140 Tsd. evaluations / 6 hours inc. 8 mil SQL queries

References ERIAN 2/2

» General Directorate of Customs

- » Risks of all customs declarations
- » Approx 1500 active rules of all complexity level
- » 25 Ths evaluations / day

» Ministry of Interior

- » National Schengen information system of the Czech Republic
- » Highly critical system
- » 25 Ths evaluations / hour

- » Award "IT Product of the Year 2015" in the category of Information Systems



Thank you for your attention

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Backup

Detail to flexibility and performance

Flexibility

- » Business user creates and modifies rules on his own with graphical interface
- » KOMIX is a Czech partner combining
 - » Tradition and capacity (22 years , 150 colleagues)
 - » Flexibility



See demonstration...

Guaranteed performance

- » Aggregated values are typically not in the input sentence
- » They are calculated only when needed
- » The user is led by system to correct design of rules
- » There are rich means of performance testing of rules



Real implementations confirm exceptional performance

ERIAN – performance, scalability

Erian is based on NASA technology - a competent CLIPS inference machine.

In the chart below see results of the standard Waltz 50 benchmark, which is used for measuring performance of BRMS.

