

## Use of AI in SMARAGD TCM

Financial service providers and companies have the obligation to protect the financial system from criminal abuse. Intelligent IT systems contribute a lot to that. Thanks to AI solutions alerts can be managed and decided faster with consistent performance and quality.

### Motivation

Financial crime is an omnipresent phenomenon in our economic life and is turning more and more into a problem for all compliance departments of companies, especially since the specialist requirements for the embargo and financial sanction screening have increased a lot in recent years. The more and more complex requirements and the growing number of alerts raise the qualitative and quantitative pressure on the organizations and result into a growing need for resources.

### Goal

The goal of the use of SMARAGD IAC in SMARAGD TCM is the relief of the compliance department, the high security and quality of the alert assessments, the fast preliminary decision and the compliance with all regulatory specifications.

- » Relief of the compliance department
- » Consistent qualitative & quantitative performance in the alert management
- » High security and quality of the alert assessments
- » Quick preliminary decisions
- » Compliance with all regulatory specifications

### Solution

SMARAGD IAC accelerates and supports the alert management by automated first decisions of alerts. Based on past alert decisions of the compliance experts the so-called AI model is trained. With a modern explainability method the explanation for the model prediction is delivered and displayed. By the use of SMARAGD IAC the majority of alerts can be edited quickly and be (pre-)decided. A part of the workload for which the compliance managers are responsible is significantly reduced.

### Machine Learning Model

With the prediction if an alert should be classified as GO or STOP, a so-called Machine Learning Model is used. The model is configured individually for each customer, based on historical alerts.

### Data and variables

The SMARAGD Machine Learning Model is basically suitable for all transaction types. The decision which variables are used for the model is made together with the customers.

## Compliance solutions on the highest level possible



### MODEL ACCURACY

The final model is supposed to classify all STOPs correctly and detect as many GOs as possible. Therefore, an accuracy as high as possible with over 90 per cent is aimed at. In the analyses and tests until now, the accuracy was at around 97 per cent, i.e. 97 out of 100 alerts were classified correctly. Three GOs were labeled as STOPs by SMARAGD IAC. All STOPs were determined correctly.

### EXPLAINABILITY

From a regulatory point of view it is important that the models are explainable and do not represent a black box. That is why we use Shapley Additive Explanations in SMARAGD IAC. Thereby the contribution of different influencing variables for the model prediction is recognizable.

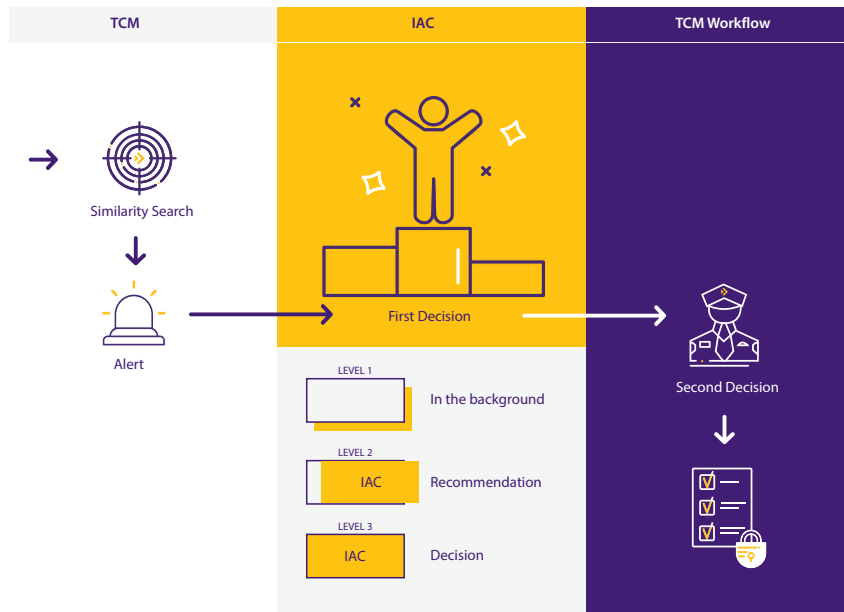
## At one glance – SMARAGD IAC

- » Intelligent covering of regulatory financial embargo requirements
- » Cost saving by machine analyses
- » Fast adaptation with changed framework

# Use of SMARAGD IAC

When SMARAGD TCM detects a conspicuity in a checked transaction, an alert inside the system is created as electronic file. It tells the user more about the cause of the conspicuity and shows all available information on the checked transaction. The detected alerts are depicted in an alert overview with their essential characteristics. The alert management is part of a multilevel, flexible workflow and can be carried out with a one or more person check.

## SMARAGD IAC can be involved in the alert management with different variants



## Quality assurance & early warning mechanism

By regular re-training – e.g. annually – the model accuracy and quality are ensured. Changes in the specialist or organizational requirements can additionally be considered if necessary.

### Components of the quality assurance

- » Analysis GUI with dashboard for quality assurance
- » Reports on the model accuracy
- » Simulation and configuration of threshold values
- » Automatic early warning system
- » Monitoring of the model accuracy
- » Monthly tendency analysis
- » Quality random samples
- » Configurable system messages

## Potential analysis

A potential analysis is carried out for each customer individually and depends on the chosen integration level SMARAGD IAC. The machine decided alerts reduce the use of resources drastically.

## Use variants of SMARAGD IAC

### LEVEL 1

The model prediction is not visible for compliance managers. It can be used for subsequent quality assurance.

### LEVEL 2

The model prediction is displayed for the compliance manager as supportive information.

### LEVEL 3

The model prediction leads to an automated first decision of alerts. Individual requirements, e.g. exceptions can be configured.



## SMARAGD

1,600 companies from all sectors in more than 50 countries rely on the compliance competence when it comes to counseling and implementation projects in conjunction with the market-leading software SMARAGD.



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