· · · • • • • • • • · · × × × ×	
• • X • • • • • • • • • • • • • • • • •	X * * * * X * * X * * X * * * * * * * *
* • • • • • • • • • • • • • • • • • • •	· · · · · * × × × × × • * × · * × 0 • * • 0 0 • • • 0 0 ()
	* X X * 0 X 0 0 0 X + 0 X + X X • X * · X 0 0 0 0 0 0 0 0 0 0 0
	DECISION
	DECISION
• • • • • • • • • • • • • • • • • • • •	
* * \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	· · · · · · * x + + X x · · X · * O · * X * OOO • · · · · · · · · · · · · · · · · ·
+ * * 0 🔿 X	· · · · · · · · · · + + × × · · ○ ○ ○ · · * + * * ◇ ◇ × · ·
• • + • • • • • • • • • • • • • • • • •	
· · · · · · · · · · · · · · · · · · ·	Speed up and automize your decisions!
	* * * * * * * * * * * * * * * * * * *
	ApPello Decision Engine is a segment and product-
	independent solution which can handle various
· · · · · · · · · · · · · · · · · · ·	business-related decisions in a centralised platform,
$\cdot \cdot \cdot \circ \Diamond \Diamond \Diamond \circ \circ \circ \times \times \times \times \times$	even the complex ones like: loan scoring, montoring,
• • • • • • • • • • • • • • • • • • •	collection and workflow-automation.
• • • • • • • • • • • • • • • • • • • •	
	With ApPello Decision Engine you can easily add and
×	
• • × • • • • • • • • • • • • • • • • •	update business-specific logic for any decisions. This
• • • • • • • • • • • • • • • • • • •	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house.
· + · · · · · · · · · · · · · · · · · ·	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. • 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. • 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. ^e 2020 ApPello Ltd. All rights reserved.
	update business-specific logic for any decisions. This allows you to react fast to the challenges of turbulent banking environment with minimum risk and cost while your sensitive knowledge stays in-house. © 2020 ApPello Ltd. All rights reserved.

DECISION ENGINE

If you are looking for a segment and productindependent **Decision Engine solution** that can handle various business-related decisions in a centralised platform, even the complex ones, you are at the right place! Our solution is enhanced by **user-friendly features** designed to **speed up** maintenance and **automate any business decisions** in any banking processes, like pre-screening, scoring, monitoring, collection and so on. **Business rules and decision logic with graphical visualisation** can be built and customised by the Bank's employees with relevant roles, even without deep IT knowledge.

The engine can work for **pre-screening**, **classical scoring** and any **additional decision points**. It is capable to handle an unlimited number of different or similar decision logics, which can differ by customer segment (including sub-segments), product, product variant, etc. The models can be **different by product or client sub-segments.** They can be **versioned** and test-live models can be **compared** (**champion-challenger**). All parameters within the system are base parameters therefore **mass upload of data components** are feasible through **excel files**. The **built-in decision tree** enables users to analyze results and gain more knowledge on approvals or rejections.

The system can work as **stand-alone Decision Engine** as well as it can be **integrated with ApPello Loan Origination** and **Debt Collection Systems** or other solutions. Furthermore, the decision engine is able to provide alternative loan offer combinations. Besides loan origination, **ApPello Decision Engine** can be fund of **monitoring and collection strategy-development.**





Complete Business Rules Management and Decision Engine



Easy integration with all internal or external Systems via **APIs**



Graphical visualization of business logic



Mass upload of data components are feasible through Excel



Supports financial functions and Basel II, III indicators calculations



Provides alternative loan offer combinations



Dynamic **data model**, Dynamic **questionnaires**



BENEFITS



Quick implementation and editable business logic **without coding**



Centralization of knowledge



Allows You to say "What to do" not "How to do it"



User-friendly approach



Quick Time-to-Market, fast reaction to regulatory and environmental changes



Minimize the risk and cost of updating business-specific logic



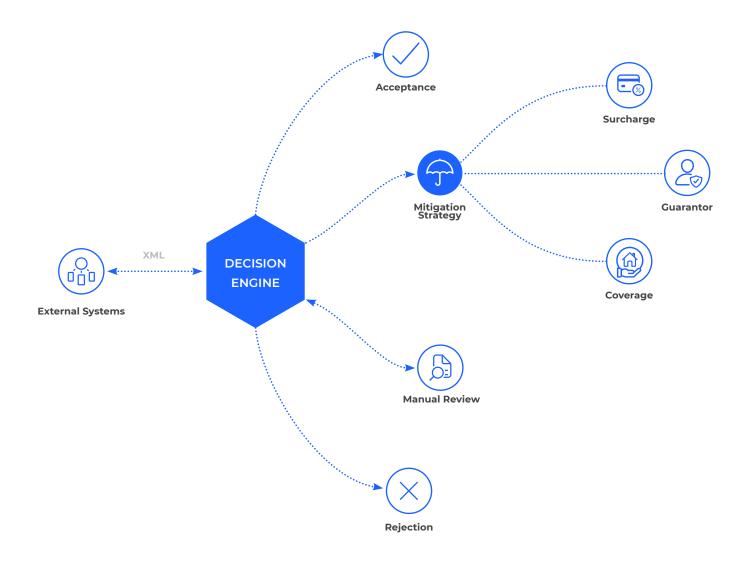
Understandable rules and business-specific logical statements



The strength of the Application lies in its openness and flexibility. The Solution is capable of taking the input data necessary for the rating and scoring process from any existing systems of the bank and also from external data sources, while the final output generated as a result of the rating or scoring workflow can be used by any connected application.

For example: the data from the loan origination solution or individual parameter tables are evaluated, scored, aggregated and assessed by **ApPello Decision Engine**. **XMLs** arriving from the **Loan Origination Solution** are managed by the Engine and the processed data is sent back by the same manner. Having regard to the frequent regulatory and environmental changes, in case of the expansion of the **XML** the system is able to handle the assigning new tags to the new variables with the help of configurable interface.

As a result of the evaluation of the application, the Enginiers are able to provide clear answers and information of further workflow steps (acceptance, rejection, manual review,mitigation strategy: surcharge, guarantor, cover) for the Loan Origination System thus reducing operational risk and improving efficiency.



FLEXIBLE SCORECARD DEFINITION

The Decision Engine is responsible for **scorecards** and for their maintenance. **Questionnaires and scorecards** can be flexibly and periodically adjusted to reflect regulatory requirements or credit policy changes. Within the process, the users are able to parameterize all rules in parallel.

Scorecards can be defined for different client segments, for different loan products and also for different purpose for example pre-scoring, client scoring. Already existing scorecards can be copied and modified into different versions.



The Decision Engine contains parameterized data models, processes and rules so for a new product or a client sub-segment further questionnaire and scoring models can be created by the Bank's experts. When it comes to modification of a logic or parameter board, it is possible to add new parameters, clone, inactivate/activate or archive the old one without vendor or IT intervention thanks to the easy-to-use system. It has never been so easy to orchestrate, test, evaluate the scorecard's rules with the help of decision tree that visualizes the whole decision process. The system's calculation/ evaluation logic is highly formable and able to manage several logics at the same time based on the versioning function. For example, in a campaign for the same product different interest rates or conditions are applied.

DECISION ENGINE



Did you know that adding more additional input fields on a Loan application form you loose measurable number of new clients?

Our **Decision Engine** is integrated with a leading **Workflow engine** (Camunda) and with our Customer **Portal**. This 3 tools together makes a very flexible solution for digital decision making. For example users can design and even test new flows within hours. Input templates can be managed dynamically based on the previous behaviour of recently aquired clients.

CHALLENGE YOUR CALCULATION MODELS

ApPello Decision engine is a powerful tool to challenge your practices and build up different models that can be versioned and test-live models can be compared.

To make testing easy, there is a possibility to mass import test data from an XML data structure. XSD schema is available to download to be able to generate the XML data structure. Test data can be run through calculation trees to verify the correctness of it or to fine tune it. Based on the mass test data import functionality portfolio based testing and champion challenger modelling are supported as well.



FOR ALL SEGMENTS & COMPLEXITY LEVEL

The Decision engine serves both retail and non-retail segments. The risk conditions can be separated from each other, be associated with the given segment and work independently.

The Engine supports complex calculations for non-retail and retail segment using the advanced statistical and mathematical functions of the system. Logit transformation or PD calibration can be quickly implemented by the risk experts of the bank. The system also manages the different steps of the PD rating calculation (model PD, overruled PD, decided PD, etc.) and expected loss of calculations.

APPELLO OFFICES

EUROPEAN - HQ

 Madách Trade Center, Building A, 2nd floor H-1075 Budapest, Madách Imre út 13-14.

\$ +36 1 474 0915

• CZECH REPUBLIC

International Business Center
 Pobřežní 620/3, 186 00 Praha 8-Karlín

• AUSTRIA

- Business Center NINETEEN
 A-1190 Vienna, Mooslackengasse 17.
- **\$** +43 72 088 4104

ROMANIA

- ♀ 15-17 Povernei street, Sector 1, Bucharest
- +40 316 301735



REFERENCES

