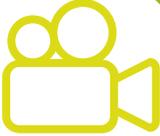




addactis Workflow SOLUTION



Automation challenges in a continuously changing market

The new upcoming regulatory requirements (SOX, Solvency II, IFRS) have generated real challenges for (re)insurers who have to integrate all their processes in a controlled environment. In this context, data interaction and process monitoring become one of the key areas for improvements.

To overcome all these increasing challenges that insurers are facing, **addactis®** has developed a platform which embeds all your processes in a single framework, **addactis® Workflow**. The features and functionalities of this advanced and modern tool are fully described below.

addactis® Workflow solution overview

The **addactis® Workflow** solution is a new generation platform for data & process integration within your organization. It provides users with full autonomy during each and every phase of data manipulation process. It enables to format and integrate data coming from different platforms/systems in a fully transparent way.

Thanks to multi-thread, multi-core technology and flow management, **addactis® Workflow** has no limit in terms of data volume and can therefore perform complex and large data transformation in a very limited time frame. Data coming from different platforms are formatted and integrated into a uniformly formatted/coded environment without interference and without substitution to the existing mainframes.

The design of a process is facilitated by a simple visual & user friendly interface. The set up and the documentation of all key internal controls is facilitated by a “drag & drop”

visual tool. An **addactis® Workflow** process is made of a succession of many treatments created by a succession of several specific “Tools” steps. **addactis® Workflow** guarantees a robust audit trail to all processes of information and a complete data tracking during each step of each project

Essential functionalities to integrate and automate all the processes are included in **addactis® Workflow**. These are:

1. Data handling;
2. Integration of **addactis®**;
3. Environment management;
4. Full back up of data and processes;
5. Data qualification;
6. Full auditability.

These 6 topics are further described below.

1) Data handling

Thanks to several tools, **addactis® Workflow** allows users to handle various sets of data in a very user friendly way. The data can be collected and exported from/to various sources: Microsoft® Excel spreadsheets, text files, all kind of databases using ODBC drivers. All kinds of transformation can be performed on the data: merge, sort, split, definition of new computed columns,... Users can also define a lot of tests to insure the consistency of the data. The scheme of the process is displayed to insure an easy comprehension of all the treatments done.



2) Integration of addactis®

addactis® Workflow is linked to other **addactis®** software (**addactis® Modeling**, **addactis® IBNRS®**, **addactis® One**) to automate a whole reserving, modeling and reporting process.

- **addactis® IBNRS®** plugin: the first **addactis® Workflow** tool that enables users to automatically build triangles from flat files, and to generate **addactis® IBNRS®** projects with some partly parameterized methods. An output flow containing all the **addactis® IBNRS®** projects or consolidation having been created is available. A second tool allows to import within the process all the results of the projections done in the reserving software.

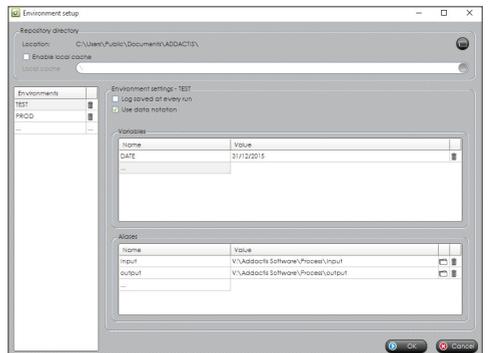
- **addactis® Modeling** plugin allows users importing data in an **addactis® Modeling** model and to execute automatically this model. All the computed data are then available within the process.
- **addactis® One** plugin allows to import data in the **addactis® One** database. The data needs to have been previously formatted in the previous steps of the process as required by the reporting software.

3) Environment management

The **addactis® Environment**, shared by all our software, corresponds to a workspace having a structure which can be cloned into several contexts of use. For each context, it is possible to define the values of each repository and each variable. Hence, the files stored within each defined repository can be specific to the context. The input data folder for the "development" context will contain only sample of data whereas the folder corresponding to the "production" context will contain the whole input data.

An environment is composed by a list of environment repositories and variables. The folders settled within an environment allows the user to:

- **Have an easier access** to these folders when selecting an input or an output file within the software.
- **Reference these folders** with an alias which will be interpreted by the software according to the current context.
- **The variables settled** within an environment can be used within the process.
- When the process will be launched the variable will be replaced by its **setting value**.



4) Full back up of data and processes

addactis® Workflow back up functionalities allows users to create an archive including:

- addactis® Workflow processes;
- Input data (including data extracted by queries from the IT System);
- addactis® Modeling model;
- Output data;
- Execution log and audit trails.

These data can be restored into a dedicated folder to run the process several times after within the same environment using the same input data.

All these data (process, addactis® Modeling model and input/output files) are stored in a compress package.

5) Data qualification

The data notation feature allows users to score their input data coming from several sources and to have a new score at the end of the process depending on the transformations which have been done.

Each column of the input flow can be noted according to 3 criterias:

- Appropriate
- Complete
- Accurate

Each criteria can be scored from 1 to 4. Then, depending on the transformations done within the process, addactis® Workflow will recalculate these notes at each step.

4 Data types mapping - Step #9

Pin / Field	Data type	Format	Appropriate	Complete	Accurate
Input 1 (ma...)					
CI	Integer		4	2	4
LOS	String		4	4	4
ACC_ID	Integer		4	2	3
UWY	Date/Time		4	4	4
ACY	Date/Time		1	4	4
BKG_CO...	String		4	4	4
AMOUNT	Float		4	4	4
SEGMENT	String		4	3	4
CUR	String		4	4	4
SUBLOS	String		4	4	2
Input 2 (pa...)					
CURREN...	String		4	4	4
VALUE	String		2	4	4

Setup Selection: (inherit) Format: [dropdown]

OK Cancel

6) Full auditability

Several features ensure the full auditability of the process:

- **Execution log:** at each run of the process, a log allows users to follow the execution of the process;
- **Audit trail:** addactis® Workflow embeds a complete audit trail tracking all changes made in the process. For each step modification or addition, a row is created in the audit trail with the user login, the date time and the values;
- **Comments:** users have the ability to enter comments at each step of the process.

6 Audit trail

Date	User	Object	Action	Value
22/09/2018 17:21:31	labouque	Platform - Excel Import #3 (Cum) - Excel input file	Modified	F:\11220\A\..._Project\AT\ADDACTIS WORK...
22/09/2018 17:21:31	labouque	Platform - Excel Import #1 (BMS Sample Input Data...	Modified	F:\11220\A\..._Project\AT\ADDACTIS WORK...
22/09/2018 17:21:31	labouque	Platform - Excel Export #4 (UserDefin) - Excel output file	Modified	F:\11220\A\..._Project\AT\ADDACTIS WORK...
22/04/2014 09:55:22	proton.gemiet	Platform - Excel Import #1 (BMS Sample Input Data...	Modified	Hi
22/04/2014 09:55:20	proton.gemiet	Platform - Excel Export #4 - Excel output file	Modified	C:\Users\proton.gemiet\Documents\Stat...
22/04/2014 09:55:24	proton.gemiet	Platform - Excel Export #1 - Sheet options - Sheet No...	Modified	Main
22/04/2014 09:55:24	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	Bottom
22/04/2014 09:55:24	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	Top
22/04/2014 09:55:24	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	KAMCNC
22/04/2014 09:55:20	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	FCP
22/04/2014 09:55:21	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	Discounting BS II
22/04/2014 09:55:11	proton.gemiet	Platform - Excel Export #4 - Sheet options - Sheet No...	Modified	Sheet
22/04/2014 09:55:11	proton.gemiet	Platform - Excel Export #4 - Sheet options - Has nec...	Modified	True
22/04/2014 09:55:11	proton.gemiet	Platform - Excel Export #4 - Sheet options - Has nec...	Modified	True
22/04/2014 09:55:11	proton.gemiet	Platform - Excel Export #4 - Sheet options - Use Defi...	Modified	True

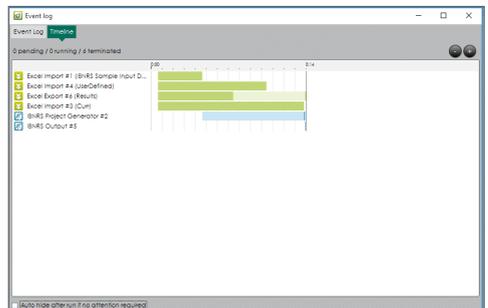
8 Event log

Event Log Timeline

Minimum log level: Information

1	DB Extractor #1 (AT_TRAINING4 on (locat).ACTIARS)
2	Excel Export #2 (Export)
3	Merger #1
13	Feed Replacer #13
14	Feed Sorter #14
16	File Input #16 (Data011)
17	Excel Import #17 (Currency)
18	DB Loader #18
19	File Input #19 (Rate)
20	Aggregator #20

[Auto hide after run / no attention required]



addactis® Workflow solution features

addactis® Workflow is/has:

- **A complete package solution** designed to structure and automate all the processes and also to embed addactis® within the information system;
- **Easy to use:** thanks to its user friendly interface based on "drag & drop" the data manipulation requires no IT skills;
- **Transparent:** a full audit trail is provided for all changes made during the process implementation. Moreover, a complete data tracking during each step of each project;

- **Data qualification under SIL:** allowing to score the data;
- **Packaging feature:** to store all the data and settings providing a full auditability of the process.

addactis® Workflow solution IT requirements

addactis® Workflow is an independent software solution without any external components or dependencies. It works on any recent 32 or 64 bit Windows platform (Windows 7 or later/Windows server 2008 or later) with standard requirements on hardware for these kind of solutions. Local and server licenses are available for the product.

All software products are addactis® full property and have no external dependency.

addactis
Actuarial & Software Solutions

addactis® is the worldwide trademark of insurance software solutions of ADDACTIS® Group covering the whole range of (re)insurance needs: pricing, reserving, reporting and modeling. For 25 years, ADDACTIS® Group has been developing an unique expertise in actuarial consulting, design and deployment of software solutions for insurers, HR and financial departments, steering and modeling of occupational risks. addactis® gathers the plurality and the objectivity of a global teamwork between its experts' and business partners' feedback. Present in 24 locations around the 5 continents, the company ensures an effective and responsive support across Europe, Latin America, Asia-Pacific and Africa. Over 500 (re)insurance companies worldwide and 2000 software users in over 50 countries have already chosen addactis®.

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**[VOL
LADA]**

As addactis®'s partner in your geographical area, VOLADA's team will provide you the more efficient expertise and support. Volada AG was founded in 2016 in Zug, Switzerland. In collaboration with addactis®, Volada offers actuarial software and service solutions and uses state-of-the-art actuarial methods to support its customers in optimising their business processes.



+41 41 710 43 38



info@volada.ch



www.volada.ch