



## USING ARCAD, IPECA TRANSFORMS THEIR IBM i SOURCE CODE & DATABASE AND MOVES TO DEVOPS, REDUCING PROJECT COST BY 75%

### Customer



IPECA is a French non-profit Pension organization created in 1947 to meet the needs of the aerospace sector for retirement and pension plans. Key IPECA customers include Airbus and Dassault Aviation.

Today, IPECA supports over 280,000 customers, with over € 200 million under management.

### Context

The core Personal Insurance Information System at IPECA is an application running on IBM i (aka iSeries, AS/400) written in RPG, with two principal domains and technologies:

- **Customer-facing (front-end)**
  - o Modern digital/mobile interfaces built with a combination of Xamarin and Sharepoint
  - o An additional set of applications to track user requests: Eptica and the Case management module from Everteam
- **Management (back-end)**
  - o A Core system managing benefits, contributions, customer repository, contracts ...
  - o The 3rd Party SIG application, a retirement software package implemented in 1994, customized by IPECA for life and health insurance
  - o An estate of IBM i RPG Applications consisting of over 10,000 components, developed in SQL RPG, RPG LE, CLP ILE
  - o An Open IT architecture supported and delivered via Web services technology

### Challenges

Having customized the SIG 3rd party IBM i application developed many years prior, IPECA faced several challenges in adapting the RPG source code to meet the demands of the continually changing and highly regulated market in which IPECA operates:

1. **Customer ID field too small.** The IPECA team recognized the need to expand the Customer-ID field to handle their client volumes. However, the impacts of this change on the code would be wide-ranging, requiring extensions to multiple interlinked working fields, and any manual project to deliver this would be extremely laborious, error-prone and present an unacceptable business risk to IPECA's operations.
2. **Understanding of 3rd party RPG source code.** Updates to source code "not written here" were slow as the IPECA team lacked the analysis tools needed to visualize application architecture and the associated interdependencies.
3. **Integrity of source code.** Anomalies in the inherited source code base such as unused components, source older than object, object without source, were costing IPECA valuable time during application maintenance. The team needed a way to automatically archive redundant objects and resolve inconsistencies in the source.
4. **Version control of application changes.** Faced with a mass transformation project to increase the size of the Customer-ID field, IPECA needed to manage deep application changes in parallel with everyday maintenance, and merge fixes between multiple branches.
5. **Project Control/Management:** acceleration



and security of projects, cost control. The IPECA team lacked tooling to automate key aspects of the transformation project, including impact analysis, code update, and transfer to production. Prior to ARCAD, and due to the complexity of their environment, developers could take 1-2 weeks to stabilize an application in production after a code change.

## Solution

After evaluating several options, IPECA selected ARCAD solutions to address the challenges listed above.

Laure Lapeyre, IT Manager at IPECA, explained their choice: "We decided on ARCAD primarily because their solutions delivered exactly against IPECA's transformational requirements in an integrated and modular way. We are now able to plug-in ARCAD modules stage by stage, as our priorities and budget cycles evolve. Each new functional area shares the same underlying application knowledge – the ARCAD repository – so our application suite is constantly optimized and always stable".

IPECA adopted the ARCAD solution range in several phases:

### Phase #1 – DevOps

IPECA first implemented ARCAD for DevOps to manage versions on their day-to-day maintenance and project branches, and automate a secure

deployment/rollback to test and production environments.

### Phase #2 – Application Analysis

ARCAD-Observer was then introduced to accelerate application understanding through graphical visualization of architecture, business logic and all application dependencies down to the source line and field level.

### Phase #3 – Field size expansion

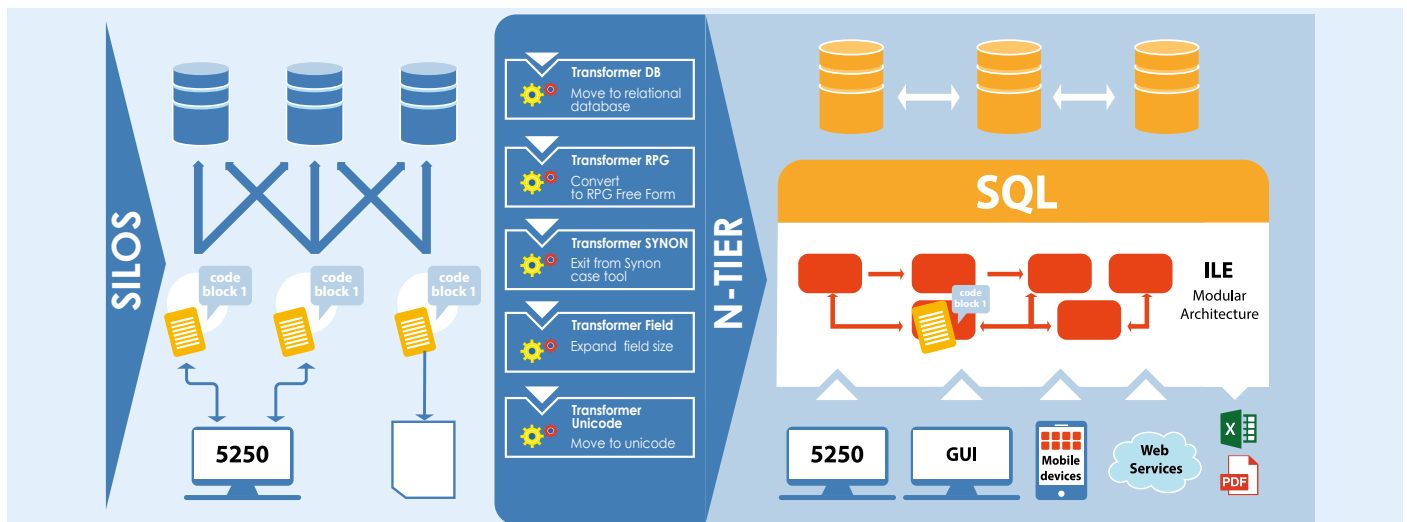
IPECA used ARCAD-Transformer Field to automate the expansion of their Customer-ID field. Detailed impact analysis was then executed across the entire application, propagating from field to field to accurately and automatically apply changes into the source code.

### Phase #4 – Test Automation

Next IPECA adopted the ARCAD-Verifier regression testing solution to automatically isolate any defects introduced into the system and track down their root cause, saving time, money and eliminating delivery risk.

### Phase #5 – Modernization of source code & database

Finally, IPECA was able to complete their application modernization through the rapid conversion of their "column based" RPG code into the most modern Free Form RPG, and their database from DDS to DDL (SQL), using ARCAD-Transformer RPG and ARCAD-Transformer DB.



## Key Value delivered by ARCAD

According to Lapeyre, ARCAD is now the "gold standard" even for IPECA's digital teams. "At IPECA, ARCAD means zero stress and an unprecedented level of reliability in deployment. Our relationship with the vendor is very close – the ARCAD team are always reactive and available to answer our questions".

Lapeyre listed the key gains from adopting the ARCAD solutions:

- Reduced costs of transformation projects by 75%
- Guaranteed completeness and precision of source code updates
- High level of accuracy in estimates of project cost and duration
- Rapid onboarding and integration of new IPECA service providers thanks to modern development tooling
- Adoption of the latest "Industry Standard" accelerated development techniques
- Enhanced End-user satisfaction and trust, reduced test effort

"Using ARCAD to transform our application, we have been able to reduce a 450 man day development project down to only 80 days using a single developer, freeing other developers to work on value-add projects. And after transferring the application to production, we discovered only one single software defect, which were able to fix, re-test and re-deploy within minutes. ARCAD has proved a major asset for the sustainability of our institution",

– Laure Lapeyre, IT Manager, IPECA

