Case Study - VIA SMS Group

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Risk Manager at VIA SMS Group

Quick Facts
Company: via sms group
Industry: Financial Services, Consumer Lending
Size: €60MM loaned annually across 6 countries
Web: www.viasmsgroup.com

Use Case
VIA SMS Group uses ScienceOps to deploy fraud detection and credit profiling models.

Results
200x faster model retraining
5% decrease in manual application reviews
13% better model performance (lift in ROC curve)

VIA SMS Group provides customers with high quality quick loan services without unnecessary or redundant formalities.

Founded in 2008, VIA SMS Group developed an entirely new approach to issuing quick loans using predictive analytics and machine learning. VIA SMS Group uses advanced algorithms to assess whether an applicant is fraudulent and, if not, what his or her credit profile looks like in order to determine whether or not to underwrite a loan.

VIA SMS Group writes the decision algorithms in the R programming language. Before using ScienceOps, VIA SMS had to rewrite these algorithms from R to the server-side language of PHP in order to deploy models into their web and mobile apps.

"There were several problems with getting the modern data analytics models to work in production. First of all, we were basically limited to linear or logistic regression models and decision trees since anything we wrote had to be implemented in PHP. Models with many interaction terms were entirely out of scope," explains Dmitrijs Ļvovs, Risk Manager at VIA SMS Group.

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"It also took a lot of time to make even minor modifications like adding new predictors because we were handing off models to the dev team. Updates could easily take a few days per model since they were dependent on coordination between teams and manual input. Rewrites were prone to typos and syntactical errors, since the languages handle data types differently."

VIA SMS Group wanted to utilize the most cutting edge predictive modeling techniques in their production systems. They also wanted to minimize the use of IT resources needed to add new data to their scoring models.

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At first, VIA SMS Group planned on tackling these goals by building their own production system.

"We initially intended to go the route of building an internal solution that relied on R installed on a server to slurp up models in R and link to our web systems via some shell scripts.

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"Building infrastructure that can deploy, test and monitor models is a really big undertaking. It would have taken us several dedicated engineers to build it, plus ongoing maintenance and upkeep. We realized that it's not our data science team's job or expertise to build reliable services, and it's not our dev team's role to build software to supports advanced statistical and machine learning algorithms.

"Ultimately, even if we had built our own production system that relied on R, we wouldn't have actually reduced the constraints on the dev team, since our data science team knows R, but our dev team doesn't. Building an in-house solution just didn't make sense. It was going to be an inefficient use of valuable resources and it wouldn't have eliminated the original issues we encountered when porting over models," explains Dmitrijs.

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Rather than build an in-house system, VIA SMS Group turned to ScienceOps for an efficient and reliable solution.

"We are extraordinarily cautious about the stability of any new solution, especially those coming from startups. Having used ScienceOps for months and never experiencing a bug or outage, it's clear to us that Yhat has put a tremendous amount of work into ensuring that the product just works. Any time we've needed technical support it's been excellent—we've always gotten answers in a day's time, despite operating in very different time zones.

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VIA SMS Group was able to implement ScienceOps and begin to reap the benefits of the platform almost instantaneously.

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"We no longer have to worry about the risk of error inherent in rewriting models because we can deploy our models in the native language they were trained and tested in. ScienceOps eliminates the headache related to integrating R's extremely rich libraries with our live systems. R packages like randomForest are now extremely easy to embed into production models for real-time use.

"With ScienceOps, our data science and risk analytics teams can test, deploy and monitor models in real time, so the feedback loop for retraining and fine tuning models is significantly faster. On top of that, because the data extraction and manipulation code in the model training environment is identical to our production code, we've cut out an enormous chunk of testing that was previously necessary.

> **For VIA SMS Group, deploying models via ScienceOps has been a definitive and measurable success.**

"Model retraining used to take us four weeks. Now it takes just a couple of hours for all group subsidiaries. Since our models have gone live, we've reduced the number of manual application reviews by five percentage points. By using the advanced modeling techniques made available natively with ScienceOps, we've dramatically improved our model performance as measured by a 13% lift in ROC curve. For VIA SMS Group, deploying models via ScienceOps has been a definitive and measurable success.

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VIA SMS Group is a leading alternative finance company offering various forms of financial products and services across Europe. Established in 2008, VIA SMS Group provides clients with high quality, quick loan services in the European Union without adding unnecessary and redundant formalities. By using the latest technologies available, VIA SMS Group provides a completely new approach to quick loan issuing system.

www.viasmsgroup.com

Yhat (pronounced Y-hat) provides and end-to-end data science platform for developing, deploying, and managing real-time decision APIs.

Yhat eliminates painful IT obstacles involved in cloud-based data science like server setup and config. With Yhat, data scientists can transform static insights into production-ready decision making APIs that integrate seamlessly with any customer- or employee-facing app.

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