

# Month-End Closing Procedures Shortened with Automated Deviations Analysis and Commenting Solution

Listed companies with tight reporting deadlines the world over know the drill around the month-end closing procedure. It's probably one of the most labor-intensive times for controllers as they go through the accounts to analyze changes in the figures, working through many - often manual - processes.

It was no different in Controlling in the B2C division at Deutsche Telekom. Each month, closing reports are compiled from multiple sources with the aim of detecting deviations in month on month figures, for example. It's the controller's job to analyze and provide comments and insights on these changes.

## Grappling with Manual Processes During Peak Workload

The digitalization team, headed by Gerrit Lillig, was brought in to evaluate the situation. The problems with the previous process were twofold: On the one hand, collecting the information for the reports from multiple sources was time consuming and potentially error prone. The other problem was the slow pace of the process. Controllers need quick access to meaningful figures and don't want to waste time sifting through figures manually - particularly during the busy end-of-month period.

Lillig's team ascertained that both collection of the data as well as access to report comments can be more effectively handled by a workflow that automates the provision of comments and analyses for the monthly closing reports.

## The Solution: Automated Process Produces Deviations Analysis at the Click of a Button

Controllers can now obtain the underlying meaningful reports quickly without having to search through figures manually. The new process produces technical comments on the compiled figures automatically in a template. After reviewing the comments in the template, controllers can elaborate on this information, thus entering further expertise to the database.

With this new process, controllers can access basic, commented reports literally at the click of a button. And now focus on using their time to elaborate on these, adding more insight to the automatically provided comments in the reports, and enhancing the master database with their expertise. This provides Controlling not just with an automated process for comments but also a deviations analysis tool.

## Company

### Deutsche Telekom GmbH Digitalization Team in Functional Controlling B2C

The F-B2C Digitalization team was founded in 2019 as part of the business analytics team within B2C Controlling. Their mission is to not only digitalize and optimize processes within finance but also to turn data insights into value generation together with the business teams. The team consists of data scientists and business analysts and combines expertise in finance, data science, data visualization, process automation (RPA) and KNIME. Beside the automation use cases based on KNIME a strong focus of the team is on ML based prediction and forecasting of financial KPIs.

Telecommunication

Finance

ETL

Teresa Kaufmann and Markus Schmidt, interns/trainees on the F-B2C Digitalization team, were the data scientists who developed the deviations analysis and commenting tool. Teresa Kaufmann presented the results of the project plus lessons learned and experiences getting started with KNIME to over 300 colleagues at Deutsche Telekom. This project was an excellent example of how both the company and interns can benefit from internships.

## Why KNIME?



The availability of KNIME Analytics Platform as a free and open source tool meant that the project could start immediately. There was no need for getting approval for an upfront investment.

Due to KNIME's visual programming environment, it's not only easy to use but it also enabled the department to develop this solution independently of IT teams. Even with little prior experience in using KNIME, a team of two - together with the closing team - was able to develop a production-ready solution within three months.

With the workflow in place, its graphical visualization enables easy handovers and understanding of the process within and across teams.

This solution is currently in operation in controlling for Telekom Deutschland's private customer business (B2C) closing department. **Ruben Flemming** from the digitalization team is now about to scale up the solution to run it not only on the financial closing data but also for deviation analysis on sales performance data.



## Gerrit Lillig

As Vice President Steuerungsinstrumente Privatkunden in Telekom Deutschland, Gerrit Lillig is responsible for optimization of the profitability of the B2C-Business based on business analytics. As part of this role he is also responsible for the digitalization of the finance processes in B2C controlling, where he has implemented various process optimizations and innovations based on technologies like Process Mining, KNIME, Machine Learning, Predictive Analytics und Robotics. Gerrit has been part of the Telekom Magenta-Family since 2011 when he joined the group as a Management Consultant at Detecon International followed by assignments as Head of Project Management and VP for Strategic and Operational Steering in DT's Shared Service Center.

## A Three-Step Process using KNIME Analytics Platform

The digitalization team used KNIME Analytics Platform for a three-part process. In the first step, KNIME is used to read in, aggregate, and create time series from the data. The data consists of monthly actuals compared to forecast and budget figures as well as prior year figures. The hierarchies between individual positions (profit and loss vs parent profit and loss positions) are consolidated and then mapped to the relevant entities in the respective management report.

## Workflow for Automated Report Comments

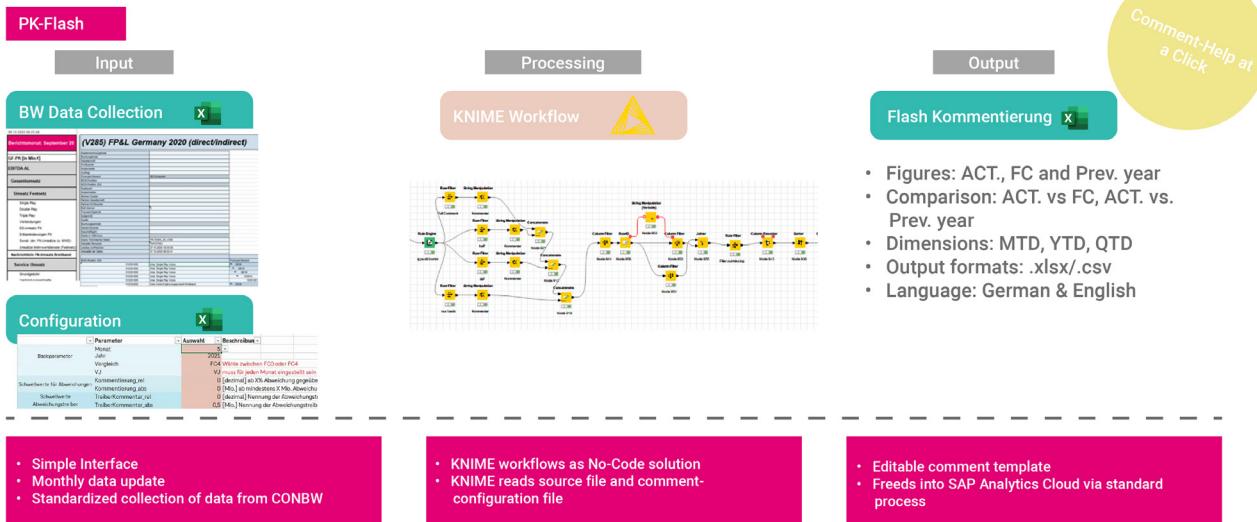


Fig. 1. Process in KNIME - Read in data, aggregate, create time series, calculate, and comment.



The second step is to take the prepared data from SAP BW, add missing totals from the management report, other residual positions, as well as accumulated values e.g., YTD, QTD.

In the third step, deviations (absolute and relative) are calculated, filtered, and components for creating comments are created with particular reference to positive and negative deviations. Finally the individual positions are merged and the results are automatically commented. These comments are produced in text form and transferred by a bot (blue prism) to the closing team who review them and elaborate as required. Figure 2, below shows how much of the output i.e., the final commenting is provided by the workflow. Only the comments highlighted in yellow were added afterwards by the closing team.

**"It was great to see how, with the right approach and tool, we were able to generate a valuable benefit for our closing team in such a short time."**

Gerrit Lillig, VP PK Steuerungsinstrumente,  
Telekom Deutschland GmbH.

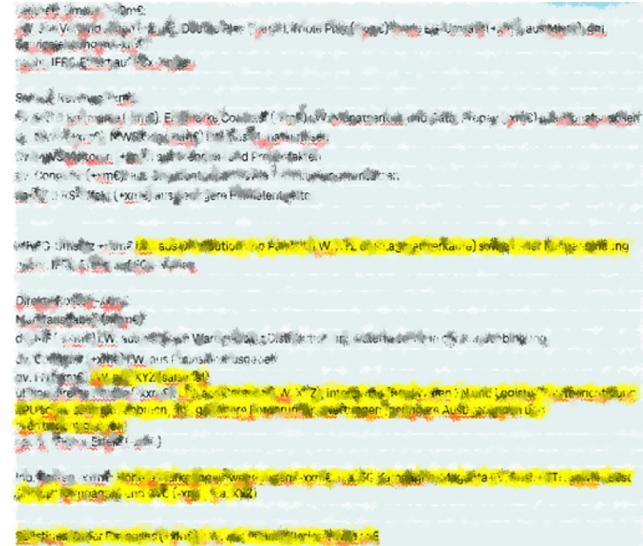
## Output

### December 2020 ACTUAL vs FC4 MTD

XYZ-sales + € XX m, from sub-item1 (+ € x m),  
sub-item2 (+ € m), sub-item3 (+ € X m),  
subitem4 (+ € m) ; sub-item5 (- € x m)  
After IFRS effect at FC4-level

- Relevant deviations from detail nodes are ascertained as a deviation from FC or PY and merged to a higher-level node as suggested text
- A comment proposal for the monthly report is made from all the higher-level items and transferred to the reporting team
- The reporting team adds more detailed information where necessary (e.g. campaigns)

### December 2020 ACTUAL vs FC4 MTD



Manually added comments are marked yellow

Fig. 2. On the right see the output i.e., basic commenting on the figures generated by the workflow for review and elaboration by the controller.