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Fleet Mileage Report • Case Study

Avrios is comprehensive fleet management and mobility management Platform. As members of the Insights & Analytics product team it was our duty to build a product that our customers absolutely love, by providing them valuable insights that would fuel their decisions, maintain their compliance, keeping track of costs and financing, guiding their procurements process, among others. In this study I'll reflect on how we designed the Fleet Mileage Reports.

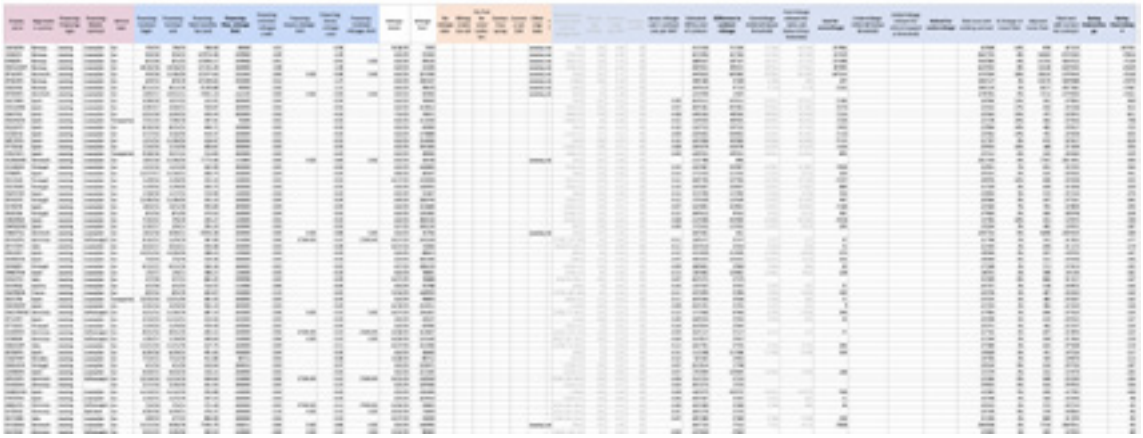
Problem

When procuring a vehicle, the driver and fleet manager estimate how many miles the leasing contract will need.

If they overestimate the needed mileage, then they basically pay for miles that they won't be using (they only get a very small rebate for the unused mileage, **nowhere near what they paid for them**).

If they underestimate the needed mileage, then they end up paying **extra costs** for the excess miles in addition to their total contract value.

Mileage management gets very complicated because it encompasses a big amount of data and complex calculations. But extra costs related to mileage are a big opportunity for cost savings. So Fleet Managers used to have complex Excel reports, including every data in a single screen. They use to be very hard to scan and understand, like the one below.



Solution

We could make a simple & effective report by addressing the use cases:

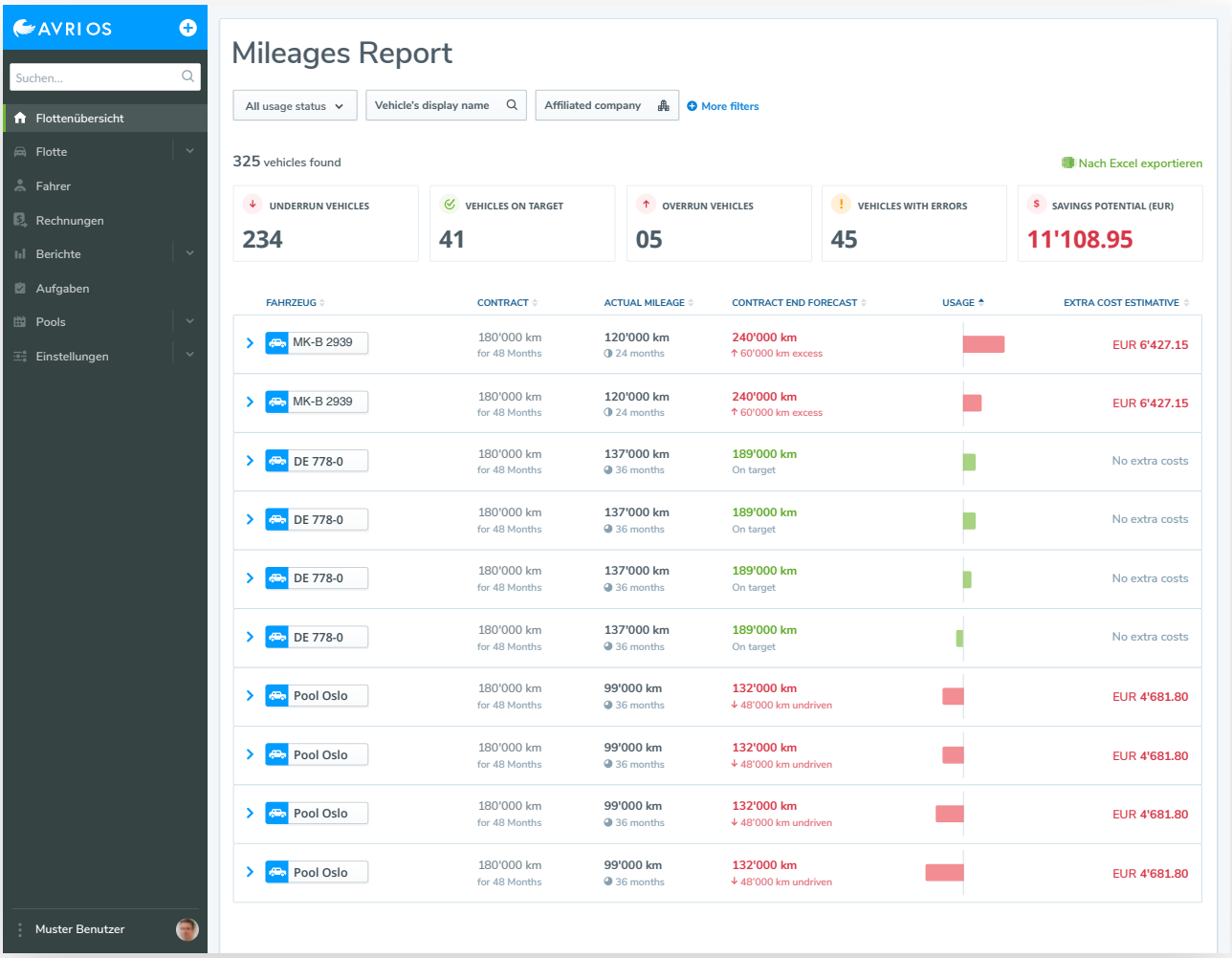
A) Provide quick overview of the current state – providing estimated extra costs
B) Drill-down to vehicle level, separately for excess & under-mileage.
C) On-demand explanation of the important things we calculate (or estimate).

For ensuring consistency and addressing the needs of the user persona, some design guidelines were crafted:

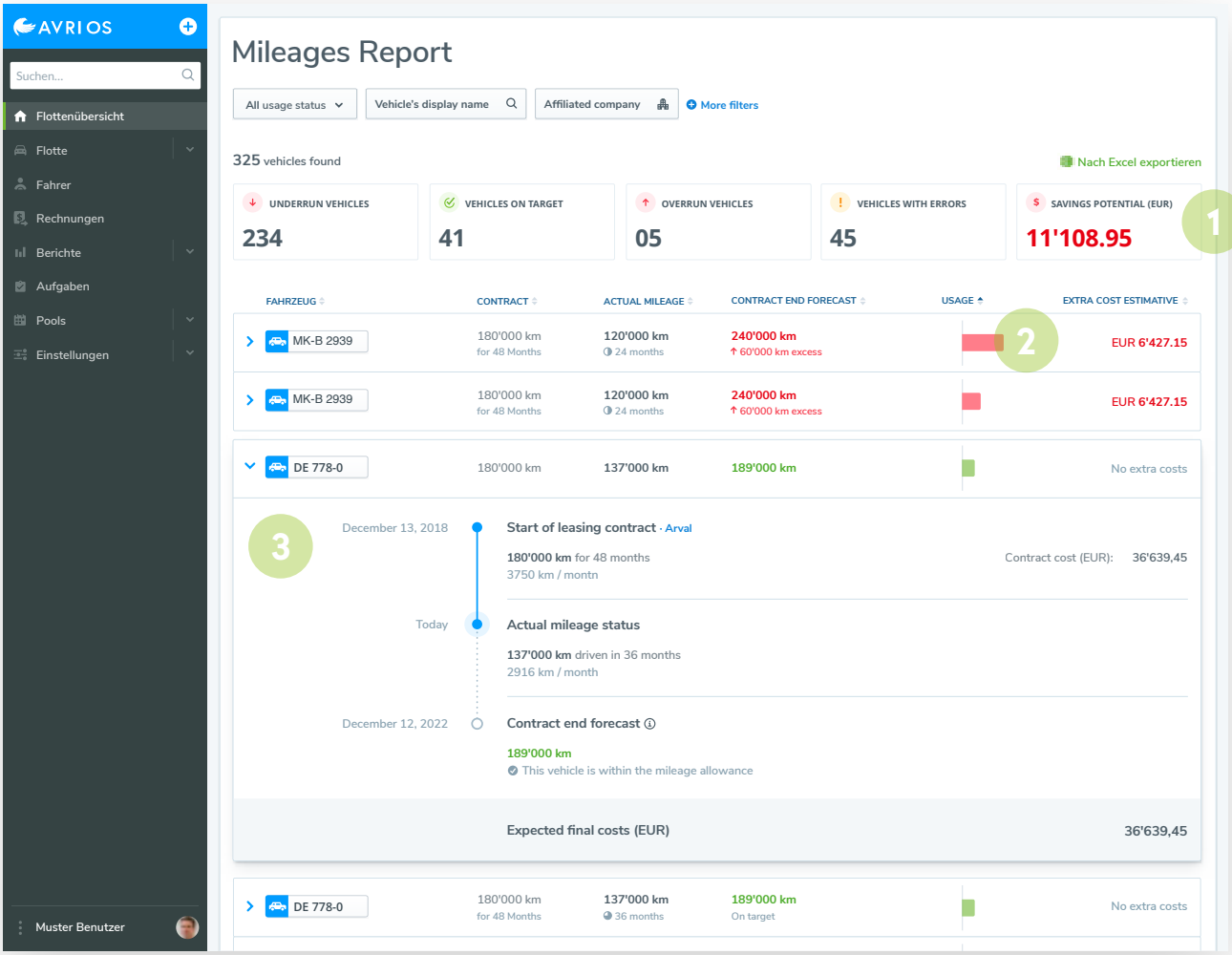
- **Think visually:** although we should be able to express the full picture of a data set, users should be able to understand the reports within a glimpse.
- **Be transparent:** it should be clear to users how we came to our calculations and conclusions.
- **Be actionable:** it should have clear to user what to do with information.
- **Be insightful:** it should be clear to user the bias and urgency of information.
- **Be consistent:** our users shouldn't need to learn different UIs to read different reports through the app.

Design

After extensive prototype attempts, we came up with a solution where users could find an overview of the mileage situation of the fleet as a whole as well as in the detail level without getting overwhelmed and with flexibility of sorting and filtering.



The complexity usually found in the Excel table was reduced to the minimal. Albeit the user was able to expand the details of a vehicle and unfold the full story, as seen below:

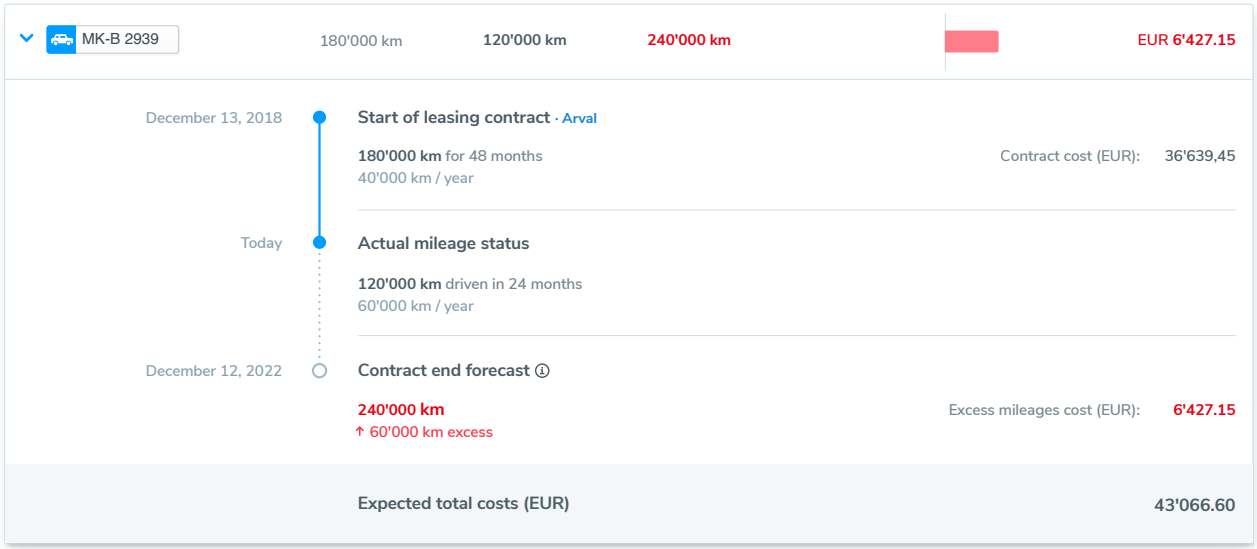


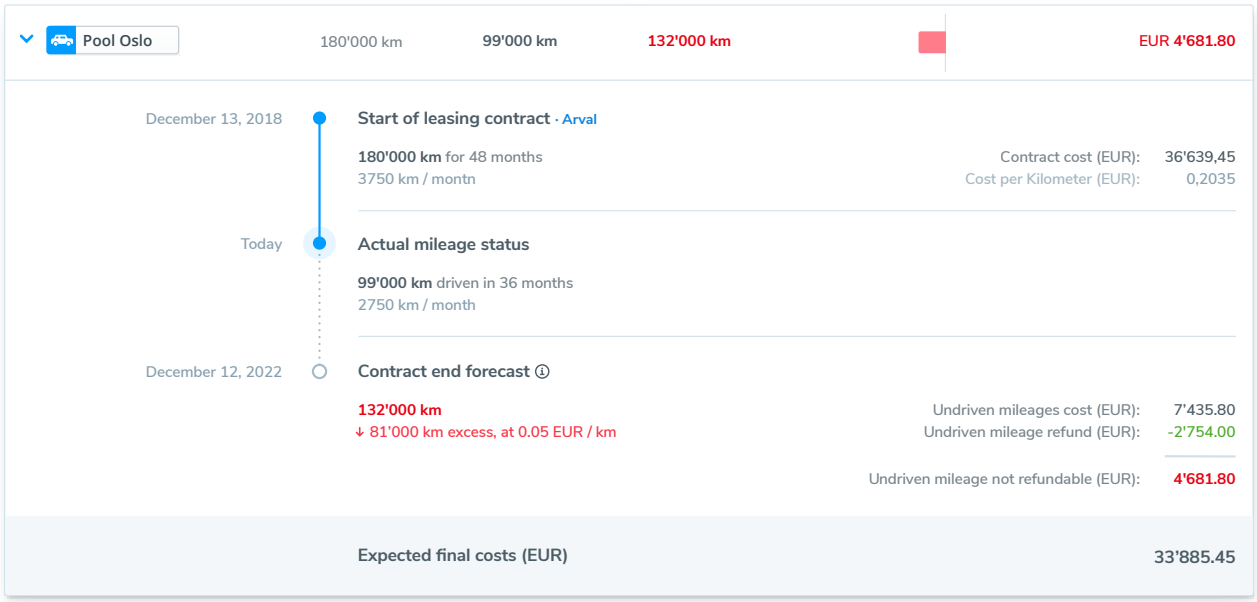
1. The big summaries would naturally vary according to the filter criteria. The savings potential surprised many fleet managers.
2. The visual element made it easy and intuitive to understand the report,
3. Expanding a vehicle reveals the full story as a timeline of events.

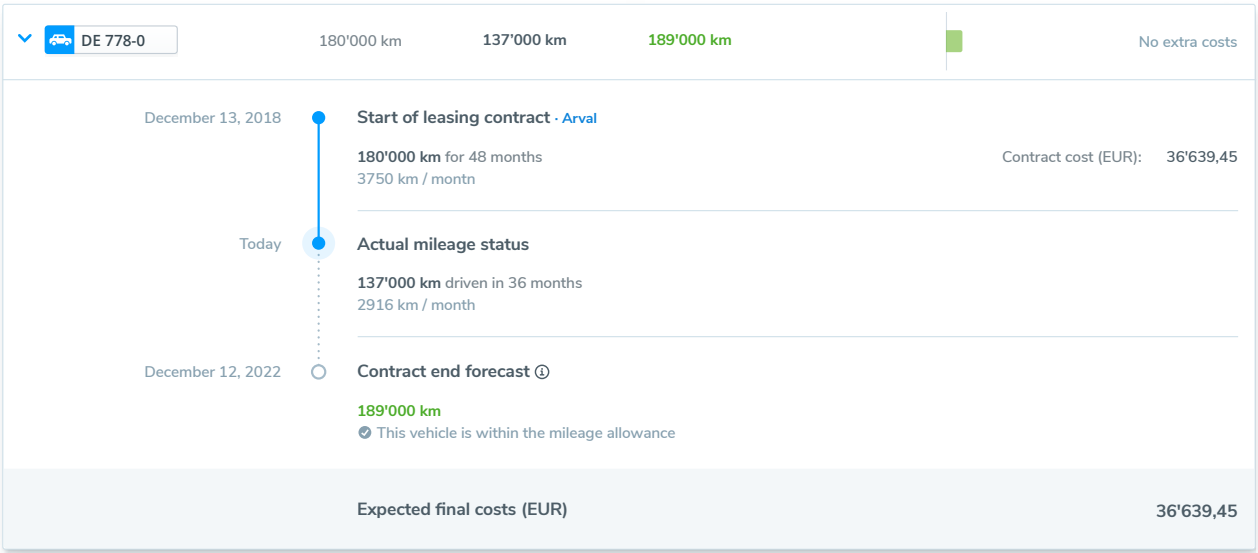
The whole concept can be represented in the tree below:

- **Overview** vehicles with under, over mileage, missing data (so I can tell Avrios properly monitors my entire fleet)
  - **Usage status** (Underrun, Overrun or On Target, so I can tell what the extra costs of vehicles exceeding their mileage will be)
    - **Vehicle & financing contract reference data** (so I can understand the vehicle's full context)
    - **Max mileage, mileage at end of contract, difference** (so I can tell why these vehicles count as excess mileage)
    - **Mileage at end of contract** (option to open explanation)
    - **Cost of excess mileage** (so that I can know how much I'll spend)

Showing the details of a vehicle usage in the format of a timeline made it easy for users to understand the calculation of eventual expected extra costs (savings potential) visually. At same time it provided transparency of how the numbers in the report came to be, so the user can trust the insights we're providing and know when they need to act.







Validation

Avrios users and internal experts were involved in all steps of the design process.

A) At the discovery phase, with 1x1 interviews.
B) At the exploration phase, expressing thoughts over low-fidelity prototypes.
C) At the prototyping phase, participating in user tests.

This informed us through the whole design process specially regarding the copy and labeling, in choosing which information we should omit, emphasize or explain in details and to ultimately design a report that our users loved.

The biggest problem we faced was data hygiene. To the report to work properly, comprehensive vehicle financial data was necessary. Financial data by the time we shipped this report had the lowest score in the average of all Avrios account.

User tests also revealed that many users wouldn't be sure of how to immediately act to avoid eventual extra costs. A potential improvement and opportunity for this report is to offer more actionable insights, as for example, switching drivers of similar underrun vehicle x overrun vehicles to balance the contract mileages, etc.

The Fleet Mileage Report together with other initiatives regarding improvements in the UX of Avrios reports and data quality led us to double the adoption of the Avrios report in about 6 months.