Horton uses Sumac, an intuitive and easy-to-use tool, for software calibration and testing

Almost any place you find engines with optimized cooling systems, you will find Horton. On trucks in all sizes, motor coaches and buses, on construction-, agricultural- and mining equipment, as well as generators and industrial compressors – Horton is standard and a pioneer in the on- and off-highway industries providing the latest technology and high-quality dependable products. Max Kolesnikov, the CEO of MKS Technology, an embedded software and controls engineering consulting firm specializing in automotive applications, working with Horton, first encountered Sumac in 2021:

"Our work for Horton involves various stages from concept ideas, software function and feature definition, software architecture, software development, including writing code, testing code, integrating software and hardware, tuning the software parameters, etc. Sumac is an excellent tool for calibrating the software, testing, and measuring signals, and visualizing the data."

**Efficient tool for calibration, measurement, and visualization**
Sumac is an intuitive, lightweight, and powerful tool for calibration, measurement and visualization of embedded control systems or ECUs. It works either offline or in real-time via XCP communication or DBC-based CAN measurement. It is the only software on the market today supporting Linux, and compatible with commercial off-the-shelf USB-to-CAN and CAN FD dongles from ETAS, Kvaser, Peak, Vector & Lawicel.

"When I write and test code, I use the tool to confirm correct operation of new or updated functionality. Once the software is released, it is used by a larger team of system and test engineers who may not be software experts and need to interact, set parameters and thresholds to calibrate software for use on different vehicle models.", Max Kolesnikov *explains and says "Sumac is perfect for setting parameters, observing how the software and the system behaves, visualizing and collecting data, and comparing datasets between different applications."*

Key Features of Sumac
Sumac offers several key features that make it an ideal tool for automotive software calibration and testing. These features include:

Intuitive User Interface: Sumac's user interface is intuitive and easy to navigate, making it simple for users to set parameters, thresholds, and other variables. The user interface is designed to provide a clear and concise view of the software and the system's behavior. See example screenshot below.
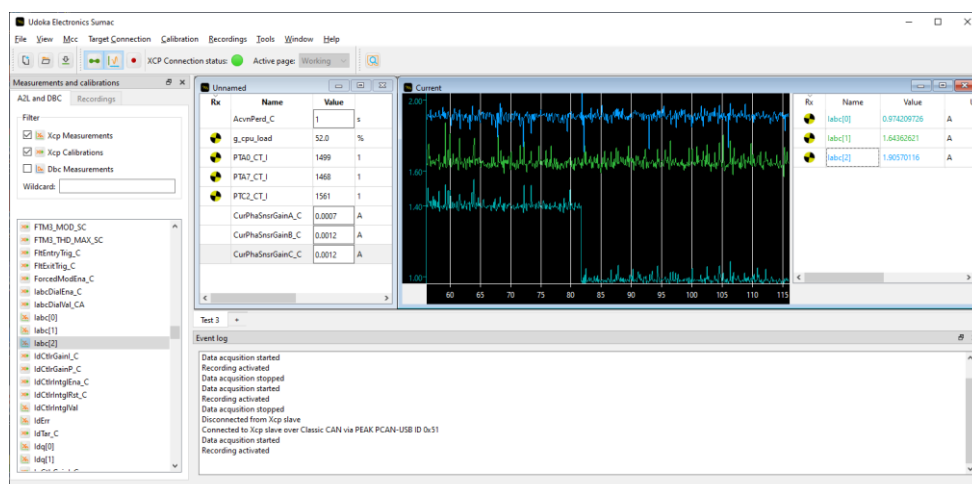
Visualization and Data Collection: Sumac allows users to visualize and collect data, making it easy to compare and analyze software performance across different applications and environments. Sumac's visualization and data collection features enable users to identify errors or bugs quickly and take corrective action.

Efficient Integration: Sumac is designed to integrate efficiently with software development tools, enabling developers to write and test code while simultaneously calibrating the software. Also, it is the only software on the market today supporting Linux.

Easy to use with no unnecessary features or functions
When developing the software and designing Sumac's intuitive and UX-friendly interface, much effort went in to making it pedagogic and functional, with no unnecessary features or functions. This makes Sumac fast and easy to use, ideal during all stages of software development, calibration, testing, and validation. With flexible license models Sumac is also cost effective. For Max Kolesnikov and his team at Horton Sumac was a perfect match:

"Other calibration tools that I have used in the past were typically heavier and had a steep learning curve, which made it challenging for new teams, like the one at Horton. To quickly get up and running, Sumac is a great fit for us. The straightforward calibration features meet and exceed our expectations. Other tools that I have used were more complicated, and it would take weeks or even months to get trained and figure out how to use them effectively in our workflow. For us, quick and efficient operations are more important. Sumac is easy to learn, and when I showed it to my team, they found it very intuitive."

Last but not least, exceptional customer service
At Udoka Electronics we aim to please and we couldn't be happier about the words from Max Kolesnikov about our customer service:

"I have interacted with them many times, and they have always been responsive, helpful, and receptive to suggestions for improving the tool to support our use case. They are very quick with updates and changes to the tool, which is great. I have not experienced this level of customer service from another company before."

[Learn more about Sumac and how this tool can help you with calibration, measurement and visualization of embedded control systems or ECUs >>](#)

[Learn more about XCP – a powerfull protocol with multiple applications >>](#)