ISOAgLib SE

Product information

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1. Product description

The ISOAgLib SE (SE = Safety Edition) is an ISOBUS (ISO 11783) protocol based library for agricultural ECU/implement-side applications, typically including Tractor ECUs (TECUs).

1.1. Key points

- Hardware independence: The ISOAgLib SE library ensures compatibility with almost every freely programmable hardware, just a simple C compiler needs to be available.
- Modular API: The library is divided into modules, each representing different parts of the ISO 11783 standard, providing a clear overview and ease of use.
- Comprehensive API: The library comes with a highly abstracted and documented API, allowing you to implement your solution faster, no need for low-level ISOBUS knowledge like CAN frame content.
- Tutorial applications: We provide tutorial applications to get started quickly (the simple "First Steps") and to validate that the library is running flawlessly on your hardware (the full featured "System Validation Test"). These demonstrate also how to use every single API function of the library. Every functionality is covered in this application.
- AEF Functionalities: ISOAgLib SE is compliant with AEF implement-side functionalities of UT, AUX-N (functions and inputs), AUX-O (inputs), TC-BAS, TC-GEO, TC-SC, LOG, ISB, FS, TECU and TIM as well as the AEF server-side functionalities of TECU and TIM.
- AEF Conformance Testing: We conduct AEF CT on the provided System Validation Test tutorial applications, making it really a great reference and based for your development.
- Custom builds: ISOAgLib SE is delivered prebuilt for your target machine(s).
- Embedded devices compatibility: Written in plain C, ISOAgLib SE offers great compatibility with literally all embedded development environments.
- Functional Safety certification: ISOAgLib SE is compliant with ISO 25119, SRL 2. As it is certified by TUEV Sued and we re-certify our process and the library annually, you can just integrate it into your safety projects.

1.2. What you get

You can choose from our ISOAgLib SE modules (compiled library + API + documentation). You will also get the mentioned example tutorial applications to speed up your implementation and our support services:

- Basic Communication Module, included with every license
    - General ISOBUS Framework for ISO 11783-3/5/12 / AEF MinCF including
        - J1939 messaging module
        - Proprietary messaging module
        - UDS messaging module (interface only)
    - Virtual Terminal ISO 11783-6 Auxiliary Type 2 Inputs / AUX-N Inputs

- Standard Clients Module for implements (separate license, only combined)
  - Virtual Terminal ISO 11783-6 / AEF UT, AUX-N functions, AUX-O
  - Task Controller ISO 11783-10 / AEF TC-BAS, TC-GEO, TC-SC, LOG
  - File Server ISO 11783-13 / AEF FS
  - ISOBUS Shortcut Button / AEF ISB
- Tractor-ECU Server Module: ISO 11783-7/9 / AEF TECU
- TIM-Server Module: AEF TIM
- TIM-Client Module: AEF TIM
- Tutorials / code examples
  - First Steps: Quickly get started with a simple template application. Just create a first simply Object Pool and once you build the first-steps application, you should already see this Object Pool being correctly uploaded in a scaled way to any VT and can then fill in with live (changing objects during run-time, handling events like Soft Key press, etc.)
- System Validation Test: See how we developed AEF certified Implement applications using the ISOAgLib SE library, which can be a good kick-start with your own application development:
  - Every API function is called at least once and all available functionalities are covered.
  - You can verify that your hardware integration works using this application.
- Library build support: You get a library build for any target system along with support to setup the build environment on your side. You just have to provide us the necessary compiler and build-flags.
- Conformance Test support: We help you obtain AEF application certification with our AEF Conformance testing experience.
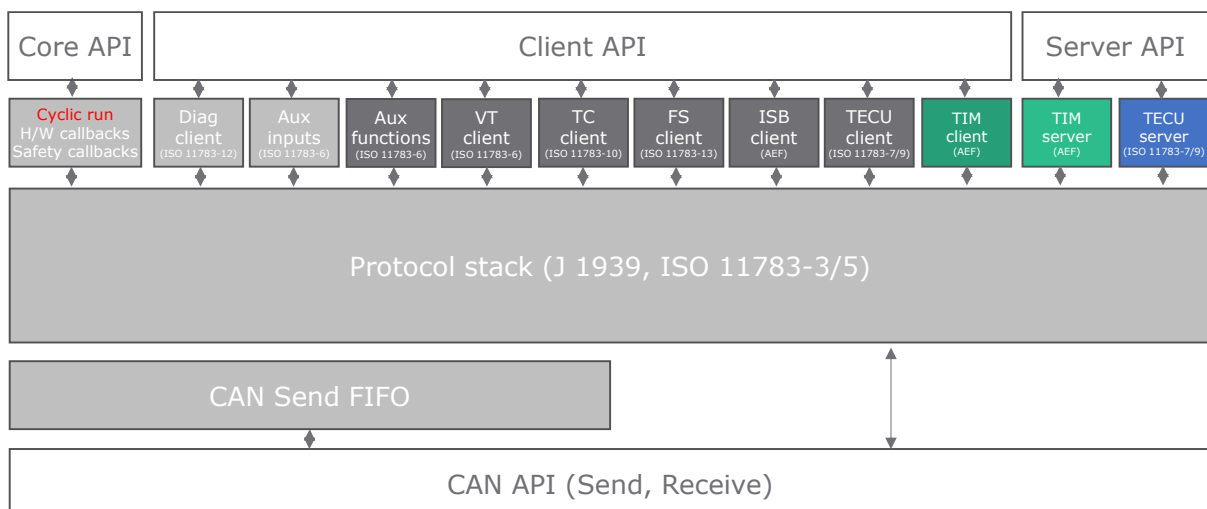

Figure 1: ISOAgLib SE architecture
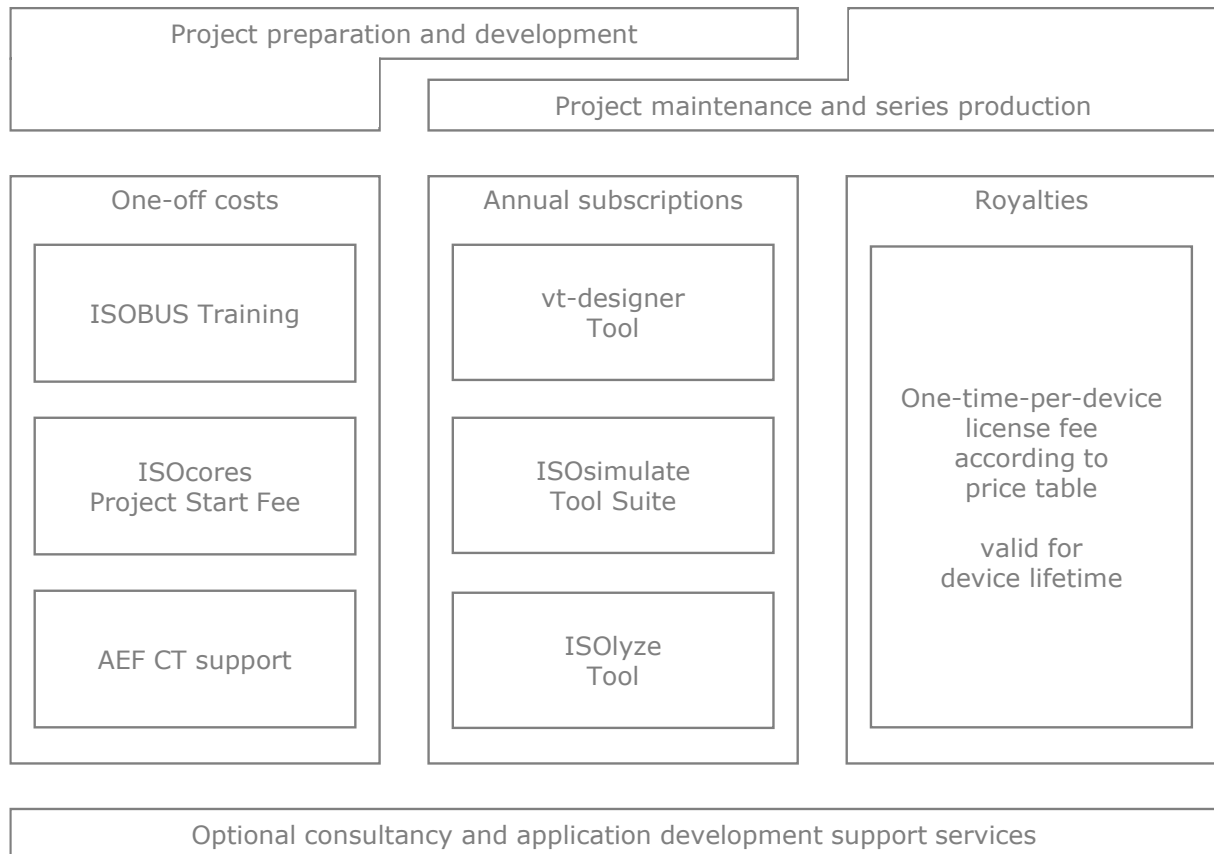
2. Project and cost structure

Figure 2: Project and cost structure

2.1. One-off costs

Shown components can be ordered as one starter package that will be invoiced after PO, or separately. If applicable, trainings/workshops will be invoiced after they were held, and PSF and AEF CT support will be invoiced after PO.

- ISOBUS Training:
  A one day basic training for developers. This is required before you start your first ISOBUS project or when you will involve new developers not having worked on ISOBUS topics before. We can also offer more specific workshops when you are entering new topics.

- Project Start Fee (PSF):
  PSF is an initial fee that covers all necessary materials and support to start your project implementation and up to SOP. Purchasing PSF is required before libraries or related materials are handed over. See section 'Support' for included services.

- AEF Conformance Test (CT) support:
  When you order AEF CT support with the starter package, we will help you from the beginning to get your hardware platform tested in the AEF test lab and we will perform pre-tests, analyses and suggest improvements of your application to prepare it for certification..

2.2. Annual subscriptions

The subscription fee for our tools will be charged after initial PO and then annually as long as the subscription is not cancelled within 30 days prior to the end of the period. The software can be downloaded and installed after PO on multiple computers. A license code is required to unlock the software. This will be installed on a USB dongle.

- vt-designer:
  This is the tool for the graphic development and editing of ISOBUS object pools for UT-client applications. It allows for the very comfortable generation of individual user interfaces for the control of ISOBUS-based machine systems. Operating masks generated with vt-designer are compliant with ISO 11783-6.

- ISOsimulate:
  This tool suite simulates a great variety of ISOBUS server applications in a configurable way. It allows basic and stress testing your ISOBUS implement applications without the need for real hardware. Ask for our ISOsimulate price list for more information.

- ISOlyze:
  This tool facilitates the analysis of ISOBUS CAN traffic to find issues and to improve implementations. Ask for our ISOlyze price list for more information.

2.3. Royalties

The device license is a lifetime device license (One-time-per-device license fee). The license fee only has to be paid once during or after the period (year) during which the device is manufactured or the application is activated. Prices as shown in our pricing tables are calculated following the license model.

3. License model

3.1. Modules

ISOAgLib SE Standard Clients Module includes all clients typically needed for an implement AEF: UT, ISB, AUX, TC-SC, TC-BAS, TC-GEO, FS	ISOAgLib SE TIM Client Module	ISOAgLib SE TIM Server Module	ISOAgLib SE TECU Server Module

ISOAgLib SE Basic Communication Module includes AEF Minimum CF and AUX inputs

Figure 3: License modules and AEF functionalities

3.2. Pricing

The unit price for the license (one-time-per-device license fee) results from a degressive curve and decreases continuously as the volume increases. For example, the unit price per device license for a number of 501 units per year is already slightly lower than for a number of 500.
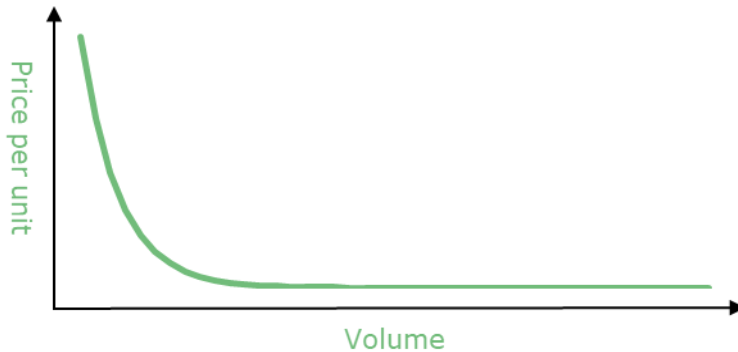

Figure 4: Degressive license pricing curve

3.3. License and Maintenance agreement

In order to regulate all legal aspects of the use of our ISOBUS libraries, our license and maintenance agreement must be signed before we can hand over the compiled libraries and other materials. This agreement governs the terms of use, liability issues, support and cooperation obligations and other legal issues.

4. Support and maintenance services

All included services can be used throughout the development phase and during the production phase as long as the license and maintenance agreement is in place. All optional services are offered either as part of a starter package or on request.

4.1. Included support and maintenance services

- Help with the integration of our libraries into your target hardware
- Answering/resolving questions/issues regarding setup and integration of our libraries for your application development
- Answering/resolving questions/issues about our APIs and their use
- Providing always the latest version of our example applications as source code
- Providing always the latest version of the developer manual/documentation
- Providing always the latest version of the licensed libraries, compiled for your target hardware (compiler environment must be made available)
- Analyzing of CAN logs from lab/field in case of any ISOBUS compatibility issues (CAN logs must be provided, if possible bundled with a short video/screenshots)
- Help with communication to other manufacturers in case of ISOBUS compatibility issues
- Guarantee of ISOBUS conformity and certifiability according to the AEF Conformance Test
- Fixing software bugs in our libraries; help finding solutions for issues caused by bugs in third party ISOBUS components
- Continuous enhancement of our libraries according to AEF standardization process
- Maximum 3 workdays response time on support requests
- Availability of new AEF functionalities generations at the latest 12 months after release of the according AEF Guideline (RIG)

4.2. Optional, paid support services

- ISOBUS trainings, developer and specification workshops, consultancy
- AEF certification of customer applications
- Customer specific modification / Add-ons to our libraries
- Enhancing of our standard applications in case of specific customer requests
- Customer application development.

Request your quote at: sales@osb-connagtive.com