**SEW
EURODRIVE**

More drive
for your
automation solution

Software modules MOVIKIT®

Content

Solutions for your automation

MOVIKIT® software modules for automation

MOVIKIT® software modules are part of the system MOVI-C® modular automation system from SEW-EURODRIVE and provide application-specific software functionalities for parameterizing and operating your drive technology. Each MOVIKIT® software module represents one application-specific functionality. Among other things, standard communication solutions or visualizations of machine-relevant data can be provided in addition to movement profiles. MOVIKIT® software modules are integrated into the free MOVISUITE® engineering software and can be configured and programmed. Control-based MOVIKIT® software modules are used on a MOVI-C® CONTROLLER. The inverter-based MOVIKIT® software modules, which only require an inverter such as MOVIDRIVE®, offer another alternative.

Your benefits

Your way into the modular world of solutions from SEW-EURODRIVE:
Logical, clear, intuitive. With our constantly growing portfolio of software modules, you will always find the right building blocks for your automation task. Parameterization instead of programming - you can concentrate fully on your application-specific settings. The cutting-edge MOVISUITE® engineering software maps the structure of the automation environment and offers maximum flexibility. Adjustments and extensions can also be made on a modular basis.

Flexible

From simple drive functions to complex motion control functions

Economical

Parameterization instead of programming:
This saves costs and time during commissioning

Innovative

Boosting innovative power through new functionalities and solutions

User-friendly

Hardware-independent operation with an intuitive interface

Holistically solved

Your project: A conveyor line with palletizer.
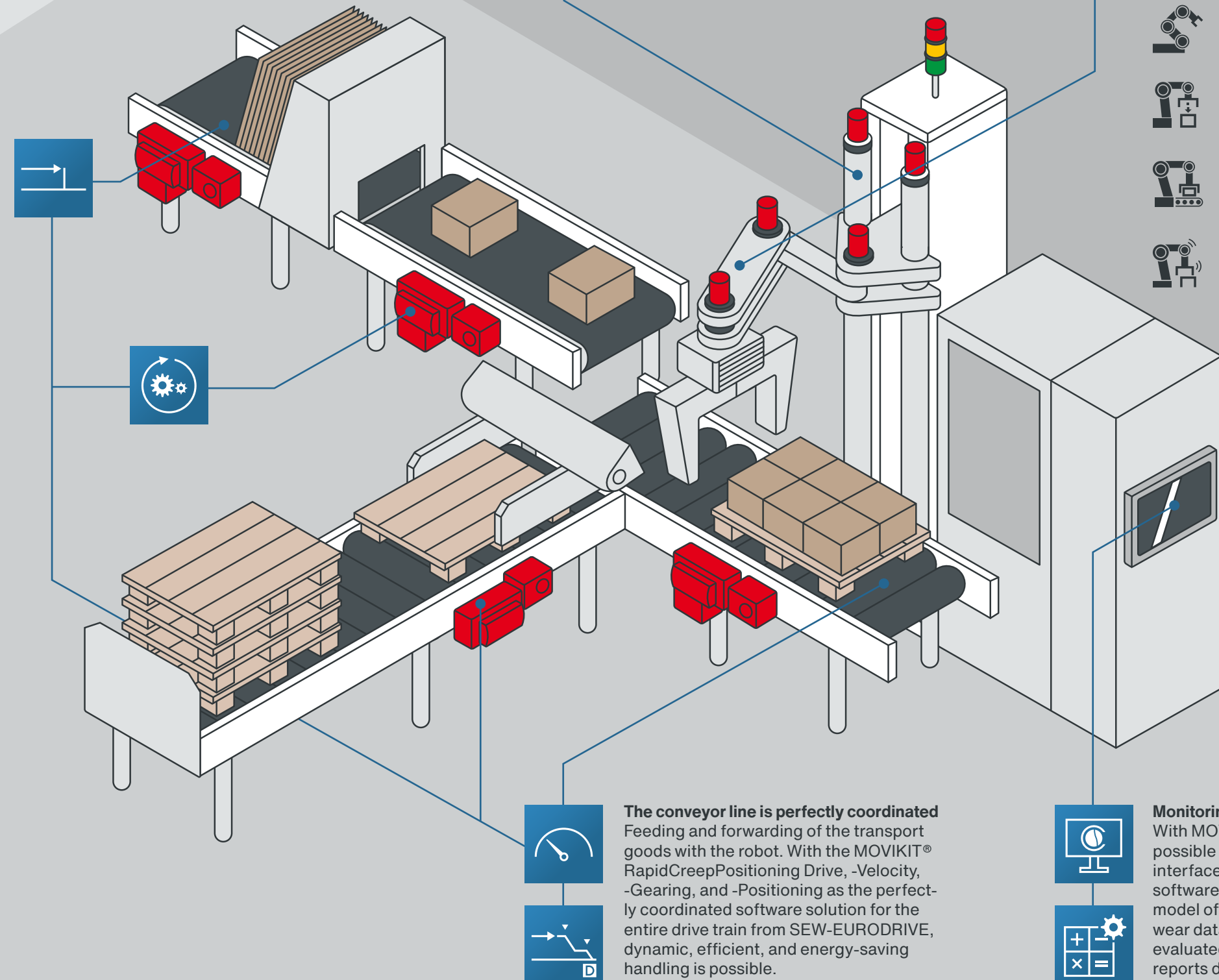Infeed of cartoned goods and palletizing.

The central element is the multi-axis robot for transferring the packages onto the pallet provided. MOVIKIT® Robotics provides the central functions for controlling the axes. Additional MOVIKIT® Robotics add-ons ensure extended functionalities. The MOVIKIT® Robotics addon Medium-Models expands the controller with additional axes. With the TouchProbe, ConveyerTracking, and CollisionDetection add-ons, you control, regulate, and monitor the loading of the pallet with boxes.

Starting with your overall solution – in this case the conveyor line with palletizer – break this down into its individual applications and their functionalities. For example, the following functions are required to implement the individual application "robotic solution":

1. **Motion control of a SCARA robot**
2. **Detecting and tracking package on conveyor**
3. **Preparing the position of the package for the gripper**
4. **Collision detection**

Once the necessary functional requirements are known, the appropriate MOVIKIT® software modules can be selected. There is a range of simple functions that can be implemented on the inverter and an almost unlimited selection of software modules that can be implemented on a MOVI-C® CONTROLLER from SEW-EURODRIVE.

There is hardly a function that cannot be implemented. If a function is not included in the SEW-EURODRIVE software portfolio, we will be happy to support you with customer-specific software modules.

Future proofing
Energy efficiency with the MOVIKIT® PowerAndEnergySolution PowerMode is designed for applications with energy storage and provides the user with functionalities such as the recording of performance/energy data and management of the DC link or the AC connection.

Unique high tech
Unique and patented software modules, such as MOVIKIT® Robotics addon CollisionDetection, which offers highly sensitive and intelligent collision detection without any additional sensors. This is achieved through the interaction of hardware and software from a single source.

MOVIKIT® Robotics addon **MediumModels**

MOVIKIT® Robotics addon **TouchProbe**

MOVIKIT® Robotics addon **ConveyorTracking**

MOVIKIT® Robotics addon **CollisionDetection**

The conveyor line is perfectly coordinated
Feeding and forwarding of the transport goods with the robot. With the MOVIKIT® RapidCreepPositioning Drive, -Velocity, -Gearing, and -Positioning as the perfectly coordinated software solution for the entire drive train from SEW-EURODRIVE, dynamic, efficient, and energy-saving handling is possible.

Monitoring and graphical interfaces
With MOVIKIT® Visualization, it is possible to create a graphical user interface. The ModelBasedMonitoring software module uses a mathematical model of the application to compare wear data and the actual values evaluated by sensors and records or reports deviations and changes.

Efficient and innovative

By using MOVIKIT®:
Promote innovations and exploit economic opportunities for action.

In 9 out of 10 situations where a company has an innovative mindset, using MOVIKIT® software modules can provide additional new ideas and solutions, as well as solving the problem at hand. For example, a machine can be both optimized through the use of new motion sequences and profiles, and also designed to be economical, market-oriented, and future-oriented.

Example: More efficiency for your Ferris wheel

One example of this is the application of an amusement ride manufacturer who was able to innovatively redesign the drive of its Ferris wheel by using modern software and hardware, despite the traditional concept. In addition to the use of other MOVIKIT® software modules, a monetarily measurable and at the same time innovative improvement of the existing solution could be achieved through "PowerAndEnergySolutions" and "MultiAxisController" in particular.

20 – 30%
energy saving
Whereas the braking energy of Ferris wheels was previously converted into heat, it is now temporarily stored and retrieved when needed.Eight double-layer capacitor modules absorb the energy that is released and thus reduce the Ferris wheel's energy costs by 20 to 30 percent. MOVIKIT® PowerAndEnergySolutions is a key component here. This takes over the coordination and control within a MOVI-C® CONTROLLER up to the hardware and thus forms the core.

By using MOVIKIT® MultiAxisController, it was possible to deploy new drive technology using several smaller, energy-efficient helical geared motors. This software module enables the implementation of mechanically coupled drives (loose or rigid coupling), correction of an inclined position (skewing) and compensation of the torque of drives. Additional functions could be implemented in combination with other MOVIKIT® software modules.

**MOVIKIT®
PowerAndEnergySolutions**
Software modules for energy management

MOVIKIT® MultiAxisController
For the central control of mechanically coupled drives

Gear motor

Converter   Capacitors

MOVIKIT® software modules

Each MOVIKIT® software module is assigned to a category, so applications can be assigned to possible solutions quickly.

MOVIKIT® AutomationFramework
Includes a standardized state and mode manager with Pack-ML (Packaging Machine Language) compatibility. In addition to a basic program, various sub-applications are made available to you.

MOVIKIT® Communication
Software modules that provide various communication and fieldbus interfaces. These enable data to be exchanged between the components of the MOVI-C® modular automation system and third-party components.

MOVIKIT® Drive
Software modules that are operated directly on the frequency inverters of the MOVI-C® modular automation system. These contain different positioning and movement functions to put simple applications into operation.

MOVIKIT® DriveRadar
Software modules for condition monitoring and maintenance forecasting in the form of encapsulated libraries.

MOVIKIT® Motion
Software modules that provide special motion control functions. This category also includes additional functions that can also be used for software modules in other categories.

MOVIKIT® MultiMotion
Realization of universal motion control functions for interpolating axes. Motion profiles can be activated and e.g. be superimposed.

MOVIKIT® MultiAxisController
Software modules for the central control of mechanically coupled drives. Depending on the license, for example, inclined positions can be corrected or the different torques of two drives compensated.

MOVIKIT® PowerAndEnergySolutions
Software modules for energy management. Energy consumption for applications can be optimized and energy storage can be controlled.

MOVIKIT® Robotics
Software modules for robot control. Basic functions and additional functions enable the realization of simple to complex robot applications. A Robot Language (SRL) developed by SEW-EURODRIVE is available for this.

MOVIKIT® StackerCrane
Software modules for implementing storage and retrieval machines. The software modules can be combined and expanded with other software modules from other categories.

MOVIKIT® SingleAxis
Includes all software modules whose functionality can be parameterized and that have a standardized process data interface. In contrast to the "MultiMotion" category, no programming knowledge is required for commissioning and diagnostics.

MOVIKIT® Visualization
Solutions for graphical and clear representation of MOVI-C® CONTROLLER data. Depending on requirements, this can be implemented via the controller, on a separate Windows device, or on a web-based interface.

MOVIKIT® Bundle
A MOVIKIT® bundle contains several MOVIKIT® software modules. These are specially matched to each other for the programming implementation of machine-typical functions.

You can find more information about the available MOVIKIT® software modules here!
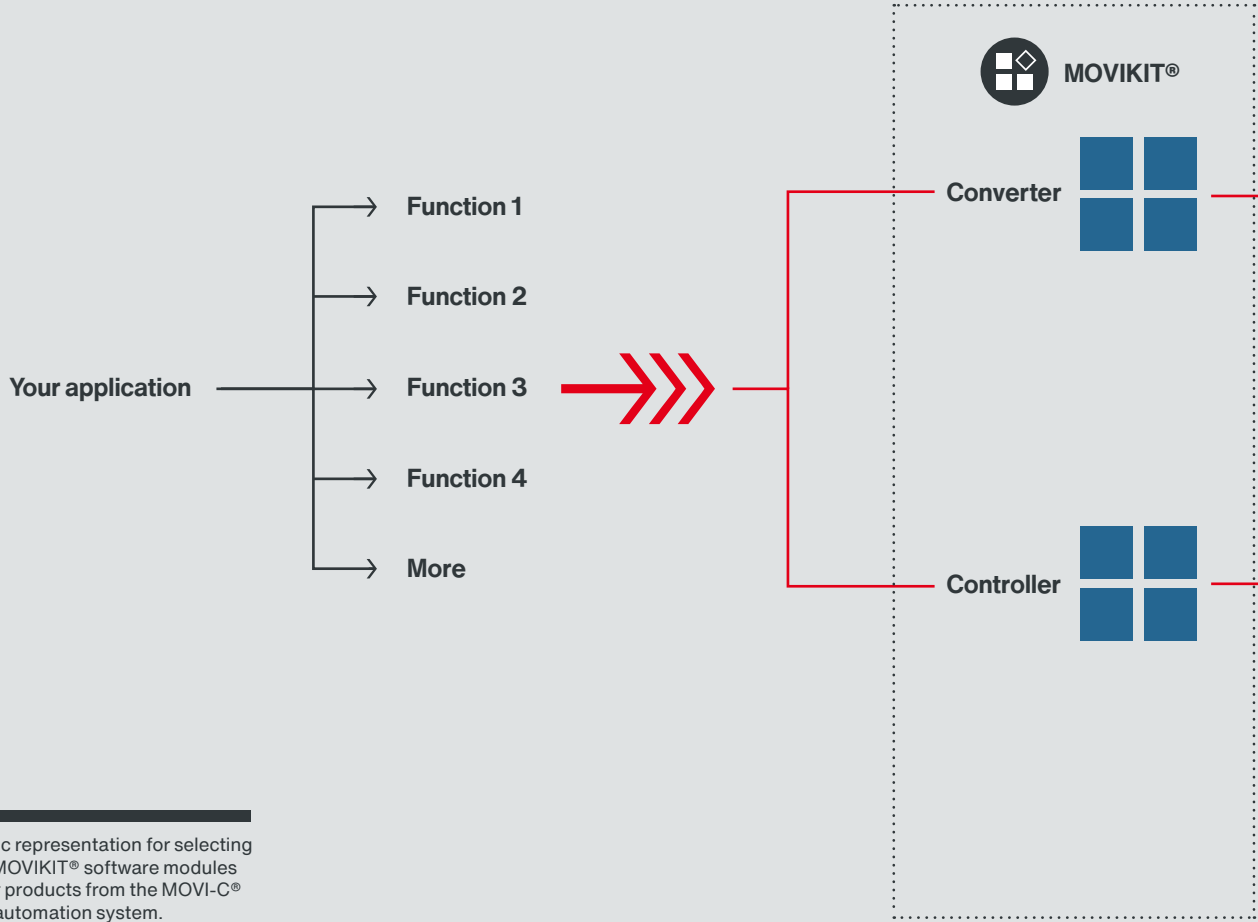
MOVIKIT®

MOVIRUN®

The basis for efficient automation. MOVIRUN® is the software platform for MOVI-C® CONTROLLER and the basis for using the MOVIKIT® software modules. The software platform defines how the MOVIKIT® software modules can be used – either as purely parameterizable functions with a fieldbus interface or with a programming interface, for example according to the PLCopen standard.

Today, MOVIRUN® flexible offers the platform for purely parameterizable use of the MOVIKIT® software modules. A large number of motion control functions are available via a fieldbus interface without further programming of the MOVI-C® CONTROLLER. Customer-specific additions and extensions can easily be added using a modern programming system based on IEC 61131-3. With MOVIRUN® open,

the portfolio has been expanded to include an open automation platform for MOVI-C® and third-party components. MOVIRUN® open offers full flexibility when managing the MOVIKIT® software modules and programming the customer application in a programming tool based on IEC 61131-3 and PLCopen.
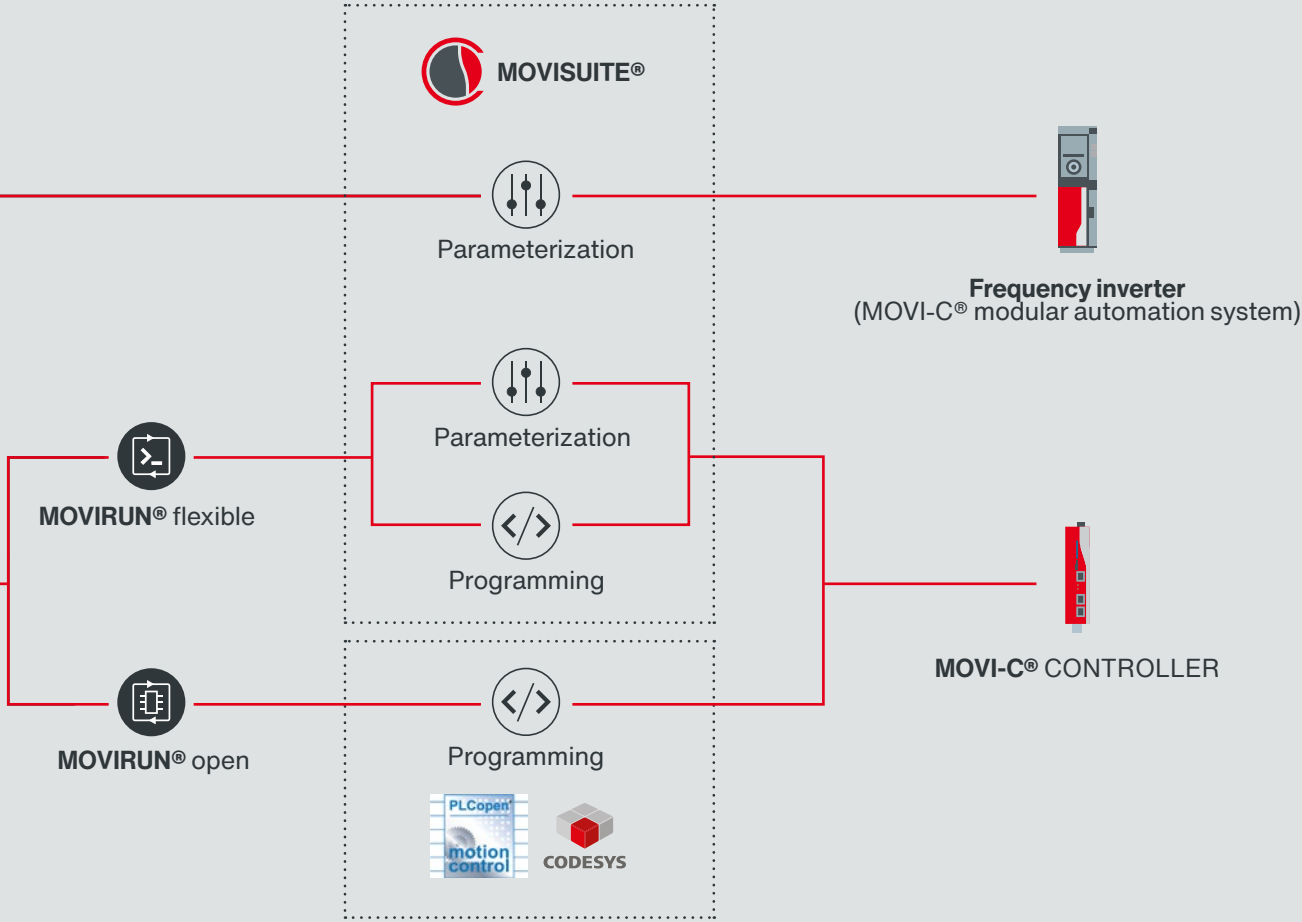
MOVISUITE®

With MOVI-C®, SEW-EURODRIVE has introduced a consistent, user-friendly software concept.

The basis for solving the motion and drive tasks is a large number of available software modules, which are combined in the MOVI-C® modular automation system under the umbrella of MOVIKIT®.

It is operated on the MOVI-C® CONTROLLER or inverters from the MOVI-C® modular automation system. The MOVIRUN® software platform ensures that the MOVIKIT® software modules run smoothly on the MOVI-C® CONTROLLER. For quick and easy commissioning, the MOVISUITE® engineering software is used for all components of the MOVI-C® modular automation system.

With its unique operating philosophy, MOVISUITE® focuses on consistently reducing the startup time. At the same time, it covers the entire engineering process from planning to diagnosis.

Schematic representation for selecting suitable MOVIKIT® software modules and other products from the MOVI-C® modular automation system.

MOVI-C® modular automation system

Modular, consistent, scalable.

The MOVI-C® automation kit is your one-stop shop for all automation tasks. One manufacturer – one end-to-end solution, with services, hardware, and software from planning and commissioning to operation and service. What does it offer you? Maximum relief, future security, and the good feeling of always having a point of contact you can rely on.

With the MOVI-C® modular automation system, everything comes from a single source. Hardware and software are a well-established team. The software takes over the engineering and the planning of your application.
With the use of hardware, the complexity, installation space, and costs all decrease. All you have to do is connect our components – they even connect to each other easily by plug and play. With configurable devices and consistent control technology, we reduce the device variants without sacrificing functionality – from safety to robotics, these are integrated, so the variety of movements that can be implemented is retained.

Simplicity for the sake of user-friendliness is the central product promise of the MOVI-C® modular automation system. It makes it easy to design complex, powerful automation and drive technology so that you can install it easily, operate it intuitively and monitor it without any problems.

You can find more information about the MOVI-C® modular automation system here!

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Other topics that might interest you:

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