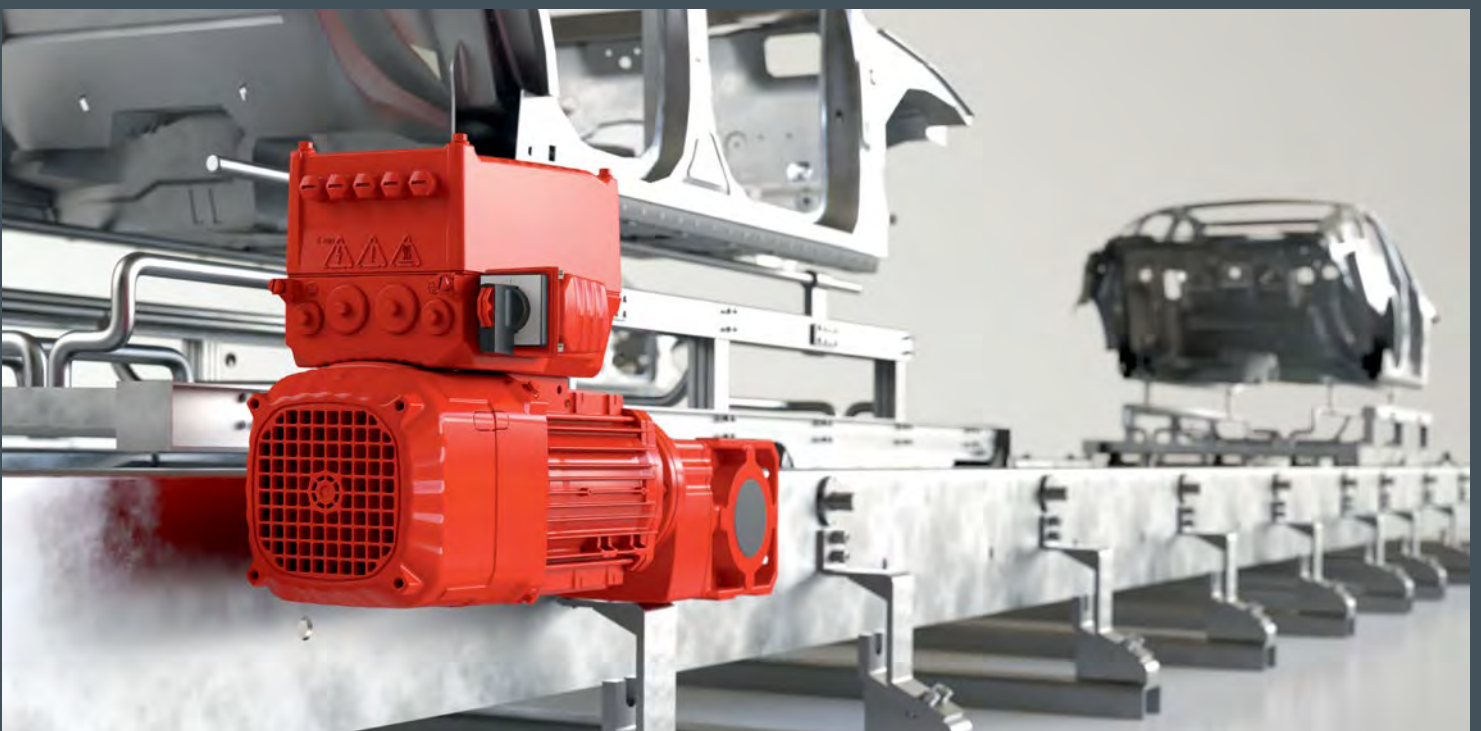
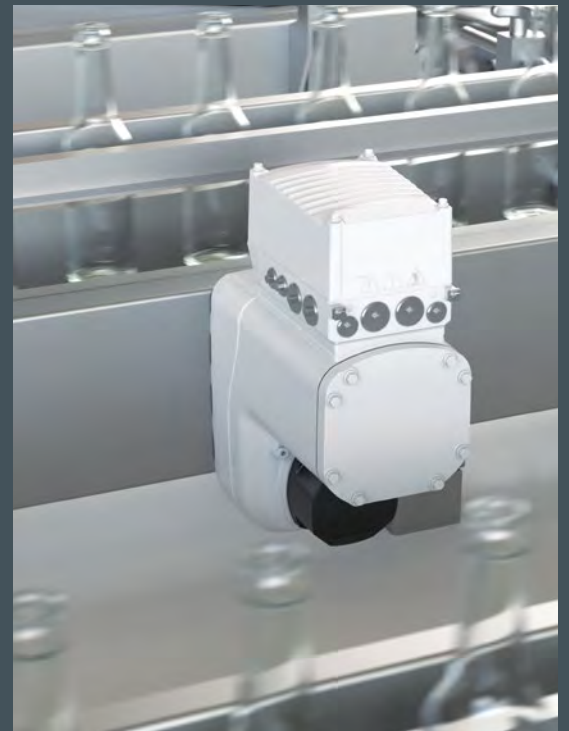
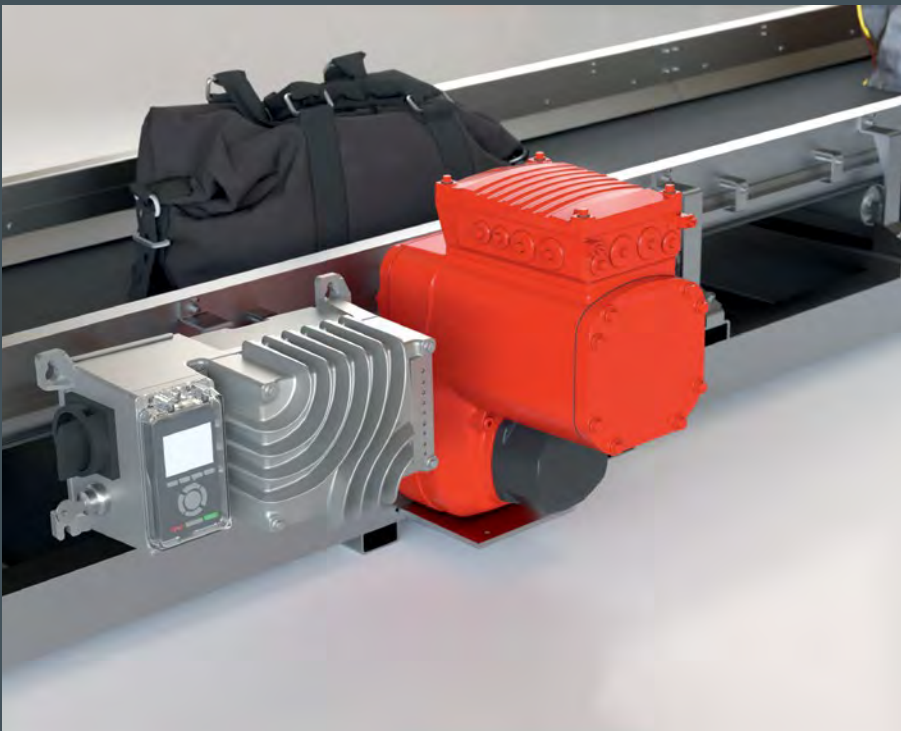


Conveyors and decentralized drive technology



A modular system that gets the job done – easily

MOVI-C® modular automation system

Ever more extensive automation, dynamic digital business models, growing ecological and economic requirements, exploding customer demands and an ever-worsening shortage of skilled workers – materials handling technology is caught in a maelstrom of complexity. Everything is becoming less simple, less clear and less predictable.

Is that cause for despair? No, not at all. MOVI-C®, the modular automation system from SEW-EURODRIVE, is taking on this complexity. It is simple, flexible and highly functional. It is also entirely standardized, whether decentralized in the field or centralized in the control cabinet. It is a safe bet – and always will be.



1



2



3

MOVI-C® tames complexity

The MOVI-C® modular automation system comes from a single source. It comes with everything required – from intelligent motors and inverters through highly integrated drives and controllers to software and an intuitive engineering tool. All components function as a perfectly coordinated unit from the start, regardless of whether they're interacting in the field, close to the motor or in a control cabinet. Identical in terms of behavior and with an unparalleled range of variants, this system simplifies your planning and engineering processes.

No matter what you're planning, MOVI-C® gives you more flexibility and simplicity to provide greater design freedom and facilitate fast, forward-looking solutions.

We're working hard to extend and develop our portfolio for more application areas, so let yourself be surprised what comes next.

Ready for use all round the world

From binary control to Ethernet-based communication, MOVI-C® systems can be used in all modern installation and communication topologies. They can also be installed anywhere in the world and utilized in any industry. What's more, MOVI-C® products have been designed for use in different voltage and frequency ranges and with different

grid types, too. This impressive versatility is rounded off by a range of regional certifications for different countries of use. As a result, this modular system is the perfect globe-trotter – and ensures you never have to worry about local rules, regulations or restrictions, no matter where in the world you're operating.

Good to go in no time – a dream to maintain

From startup to maintenance, MOVI-C® lightens the load in your workshop. Plug-and-produce is our motto. Startup is more straightforward than ever before with our systems – thanks, for example, to digital motor integration that provides all the relevant data so startup can be completed in a matter of seconds.

That's not all – in the future, you'll need far fewer drive variants, too, thanks to a universal mounting position, standardized variants, high overload capacity and a wide speed setting range. This keeps your spare parts inventory streamlined and makes your maintenance technicians' jobs easier. Optimized drive packages for use in wet areas and optional premium protection packages for an extended warranty make life even easier.

However, it's not just startup that this technology makes much simpler – when replacing a unit, the system also checks whether the correct motor has been connected.

Maintenance and repair? You can worry about that later.

Everything gets easier when everything fits! Simply MOVI-C®.

1 MOVI-C® modular automation system
2 MOVIGEAR® performance
3 MOVIMOT® advanced

MOVI-C® expands digital possibilities

All the components in the MOVI-C® modular automation system have been developed to make it easier for you to digitalize your system and they fit seamlessly into all modern communication architectures. Each drive supplies the information needed to ensure you can keep track of all changes.

This data is not just supplied by the inverter itself though – it also comes directly from the gearmotor, thanks to digital motor integration. When it comes to hardware and connec-

tivity, MOVI-C® creates an ideal basis that our DriveRadar® solutions for predictive maintenance and condition monitoring can build on. To ensure this interplay between hardware and software gives you the best possible support, we are continuously developing our solutions in this area.

What does all that mean?

DriveRadar® helps you boost availability, achieve better cost efficiency and establish a sound basis for the data-based business models of the future.

MOVI-C® makes motors greener and work more pleasant

Do you want to save more energy and cut energy costs? Do you want these to be real savings – not just paper ones?

Our modular system helps you achieve maximum energy efficiency for your system, thereby delivering genuine sustainability that also cuts your costs.

Functional safety is another area where MOVI-C® makes life easier. Not only are there safety functions integrated into the product itself, such as STO and SLS, but safety communication also simplifies your installation. Added to that are emergency stop elements that connect directly to the inverter, professional safety consulting and much more besides.

Thanks to MOVI-C®, we can offer precisely the scalable solutions that will meet your specific needs perfectly.

Moreover, MOVI-C® also makes the day-to-day work of your staff more pleasant, because we offer products that are 50% quieter than comparable standard drives. Their compact design ensures they can be installed, replaced and maintained much more conveniently and ergonomically.

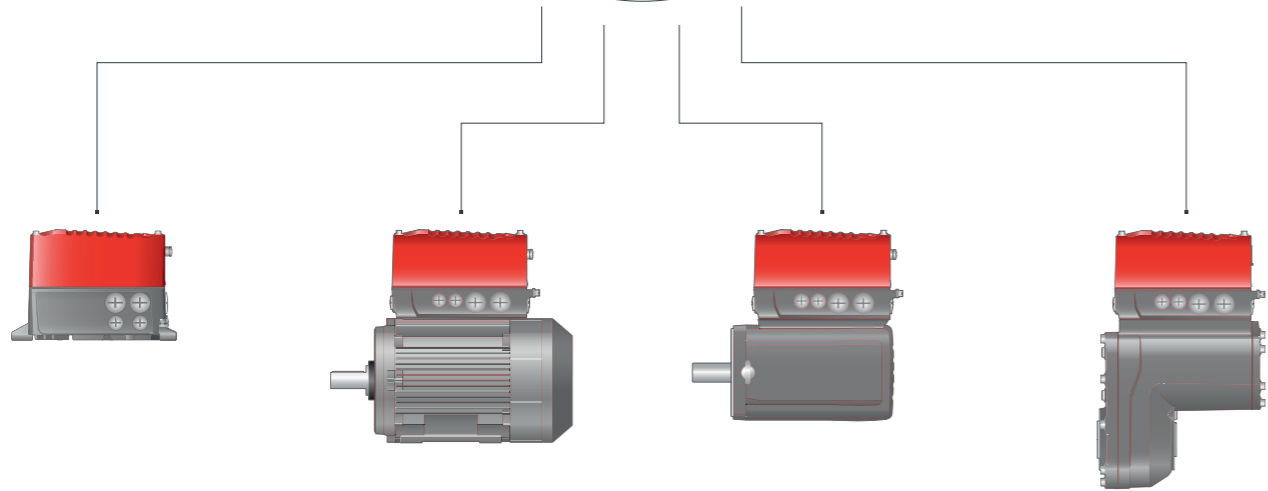


Simplicity thanks to standardization

The heart of our modular system – the decentralized inverter

Standardized use of identical electronics in four product families:

- Identical integration into your automation solution
- Swapping between products is easy
- Reduced spare parts inventory
- Intelligent data backup for rapid replacement in the event of damage



MOVIMOT® flexible
Field distributor for installation close to the motor

MOVIMOT® advanced
Asynchronous motor (IE3) with integrated inverter

MOVIMOT® performance
Synchronous motor (± IE5) with integrated inverter

MOVIGEAR® performance
Gearmotor (± IE5) with integrated inverter



One platform – two options!



Our drive systems with inverter either integrated or installed close to the motor

Standardized – from the field to the control cabinet

When it comes to decentralized drive technology, we never stop. Utilize the benefits throughout your entire system, as the MOVI-C® platform is standardized and consistent between control cabinet and decentralized installation. Make the most of the advantages offered by each and every installation type, combining them with seamless standardization in terms of software, startup and diagnostics – from a shared keypad down to individual parameters.

We've also made system planning even simpler for you:

- Less complexity thanks to use of the same MOVIKIT® software modules for standard functions – either decentralized or in the control cabinet
- Identical integration both in MOVISUITE® and in planning tools for state-of-the-art control architectures
- Excellent flexibility in system planning thanks to standardized integration of all products with the decentralized inverter

Integrating our drive systems into your system is easy:

- Direct control as binary single-axis automation, AS-Interface or via all standard Ethernet-based fieldbus systems
- Optimized for high-performance and standardized motion control tasks: CiA402 device profile
- Indirect control and module automation in combination with MOVI-C® CONTROLLER for control cabinet or MOVI-C® FIELD CONTROLLER for optimized use in networks from SEW-EURODRIVE

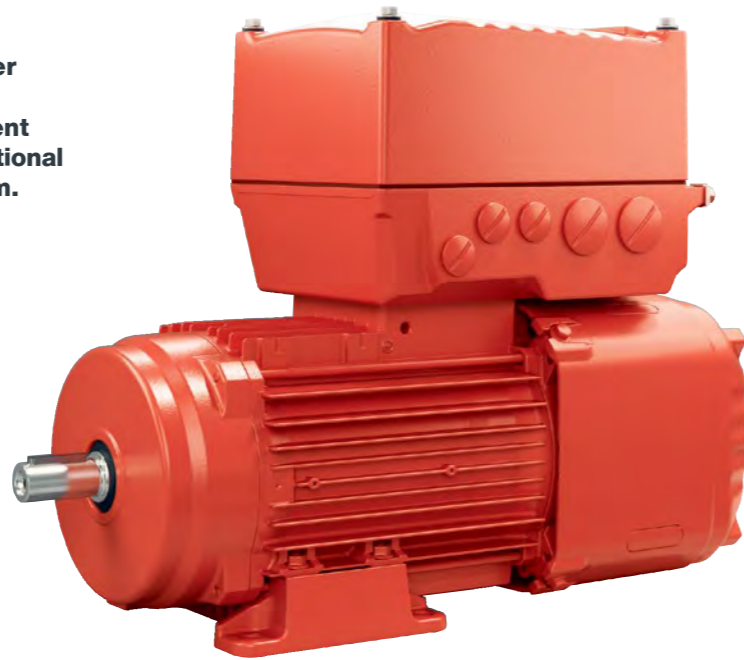


Decentralized drive technology MOVI-C®

MOVIMOT® advanced drive unit

Intelligent, flexible and cost-saving

The MOVIMOT® advanced drive unit is our allrounder that can be adapted precisely to meet your needs. It consists of a decentralized inverter, energy-efficient asynchronous motor from the DRN.. series and an optional gear unit from the in-house modular gear unit system.



- Compatible with the virtually boundless variety of options from the modular DRN.. system and modular gear unit system
- Overload of up to 220% for optimum dimensioning in static operation
- Suitable for universal use, from speed control to positioning
- Inverter integration minimizes assembly work
- High-performance connection to all standard communication systems

These benefits – combined with options such as an integrated maintenance switch, various encoders and brakes – make MOVIMOT® advanced an allrounder for all drive tasks in materials handling technology.



MOVIMOT® performance drive unit

Cutting-edge motor technology for dynamics and efficiency

The MOVIMOT® performance drive unit consists of a decentralized inverter, permanent-field synchronous motor from the CM3C.. series and an optional gear unit from the in-house modular gear unit system.

- Highly dynamic with an extremely compact size
- Excellent energy-saving potential thanks to IE5 motor technology
- Low-noise fanless operation, for a pleasant working atmosphere
- High-performance connection to all standard communication systems
- Flexible integration into all kinds of installation topologies

These benefits – combined with options such as an optional brake, DynaStop® and various encoders – open up a whole range of opportunities in materials handling technology.



MOVIGEAR® performance drive unit

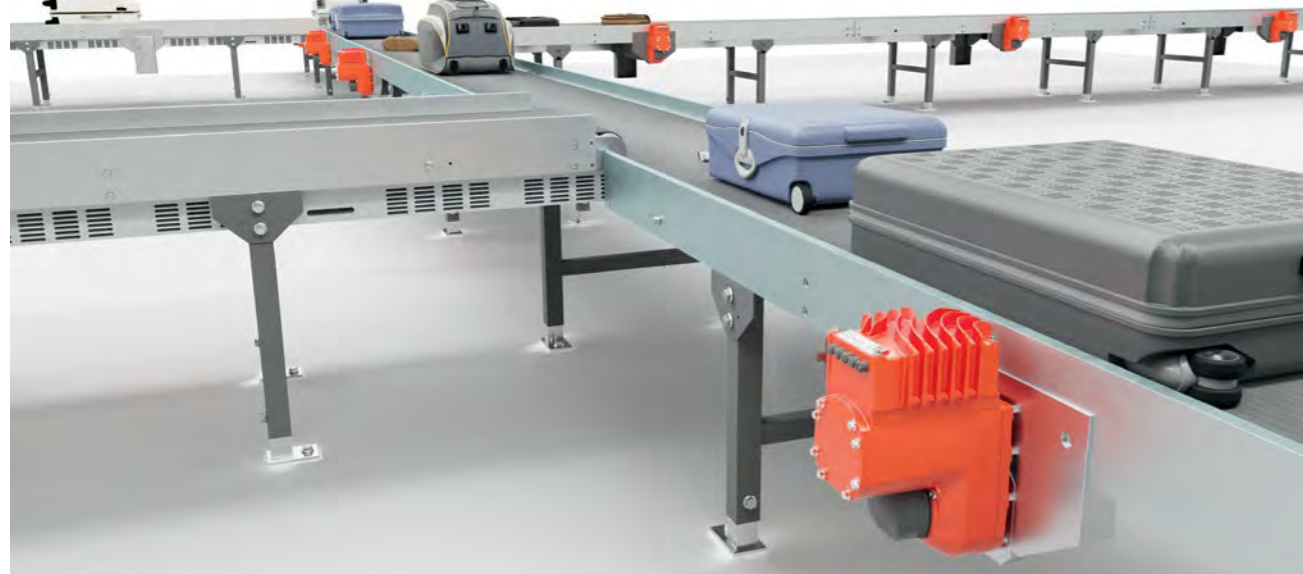
We've made the original even better



The MOVIGEAR® performance drive unit combines a decentralized inverter, permanent-field synchronous motor and helical gear unit in a single, exceptionally compact housing.

- The pioneer for compactness and maximum system efficiency in the third generation
- Unrivalled in terms of system efficiency
- Exceeds IE5 by far and reduces losses by up to 50% compared to stipulations in standards
- Optional motor encoder for a wider range of applications
- Low-noise fanless operation, for a pleasant working atmosphere
- High-performance connection to all standard communication systems
- Optimized overall concept and special drive packages to ensure resilience and sustainability, even in harsh environments

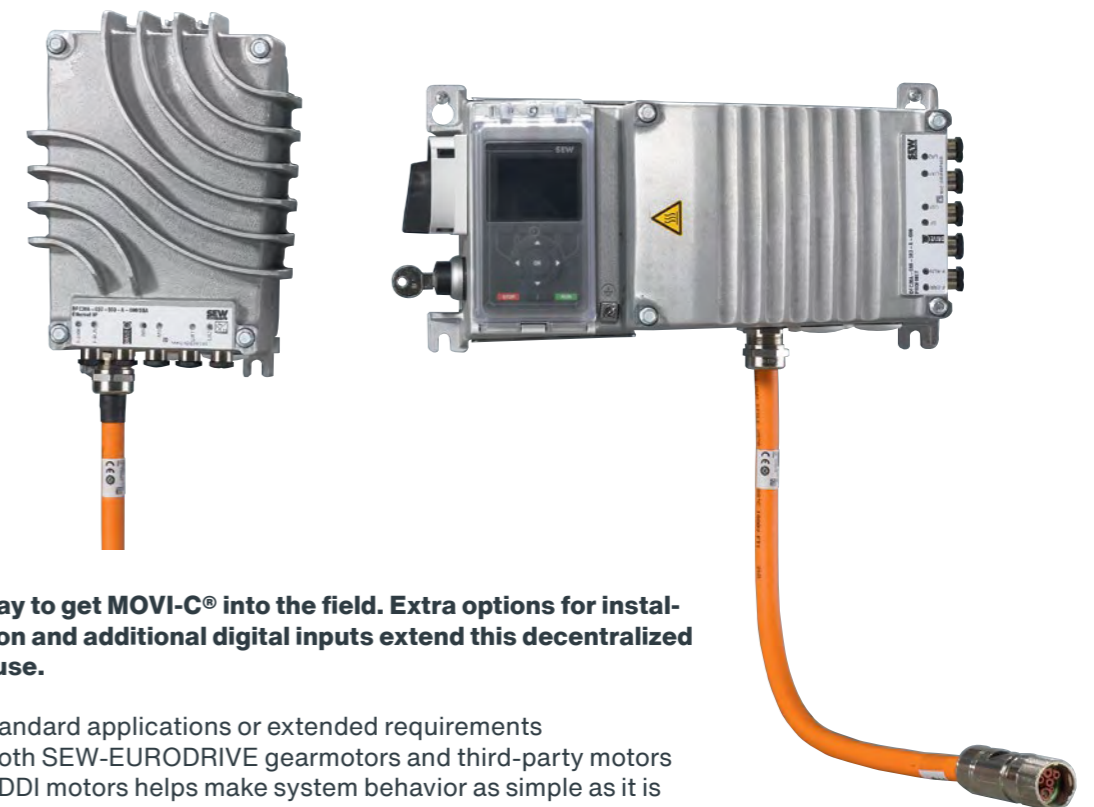
These benefits – combined with options such as DynaStop® and various encoders – make MOVIGEAR® performance the ideal solution when it comes to energy efficiency and ergonomics.



Prefer to keep your electronics close to the motor?

Decentralized MOVIMOT® flexible inverter

Flexible in terms of installation and just as straightforward when it comes to use



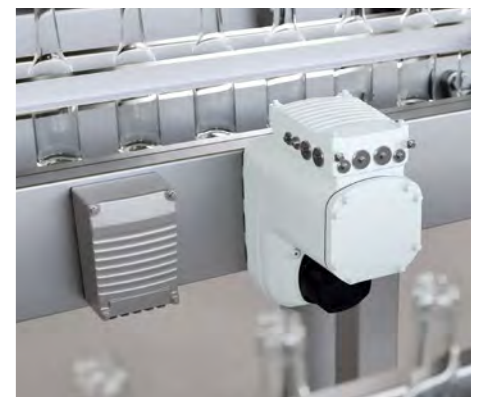
The most flexible way to get MOVI-C® into the field. Extra options for installation, local operation and additional digital inputs extend this decentralized inverter's range of use.

- Two variants for standard applications or extended requirements
- Compatible with both SEW-EURODRIVE gearmotors and third-party motors
- Combination with DDI motors helps make system behavior as simple as it is with our integrated systems
- Single-cable solution for the simplest, error-free connection to motors

DRN.. – An efficient IE3 gearmotor satisfies all applicable energy-saving regulations
 – A huge selection of options makes the DRN.. a true allrounder that you can adapt to your needs perfectly

CM3C.. – The latest generation of synchronous motors, up to energy efficiency class IE5
 – New options thanks to excellent dynamics and compact size
 – All options available for all tasks relevant to materials handling technology

MOVIGEAR® classic – Combines the advantages of MOVIGEAR® performance with an inverter installed close to the motor
 – Even more sizes and
 – Even better performance for your system



Saving energy?

Here's what you need to look out for to achieve this goal.

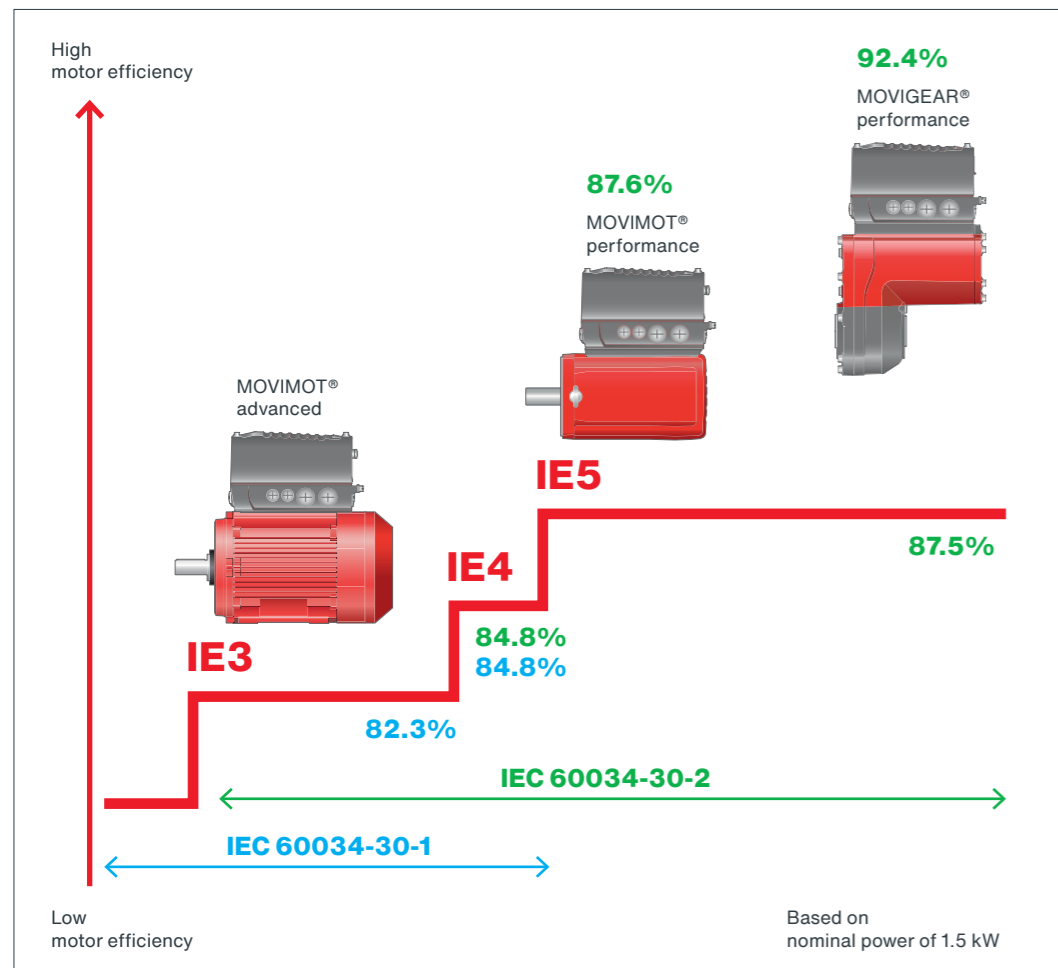
Around two thirds of industrial energy consumption can be attributed to machinery with an electric drive. Naturally, there's good reason why energy efficiency is at the top of the agenda for sustainability officers in companies.

However, finance controllers also have their eye on the issue. After all, the potential cost savings are considerable. So what is the best way to achieve energy savings? Here is a brief guide to what you really need to look out for.

Motor efficiency (to IEC 60034-30-1/2)

The energy efficiency of the smallest unit in your system – in the usual standards, energy efficiency is divided into classes IE1 (standard efficiency) to IE5 (super premium efficiency). MOVI-C® offers motors for all requirements, starting from state-of-the-art standard asynchronous motors from the DRN.. series all the way to highly efficient

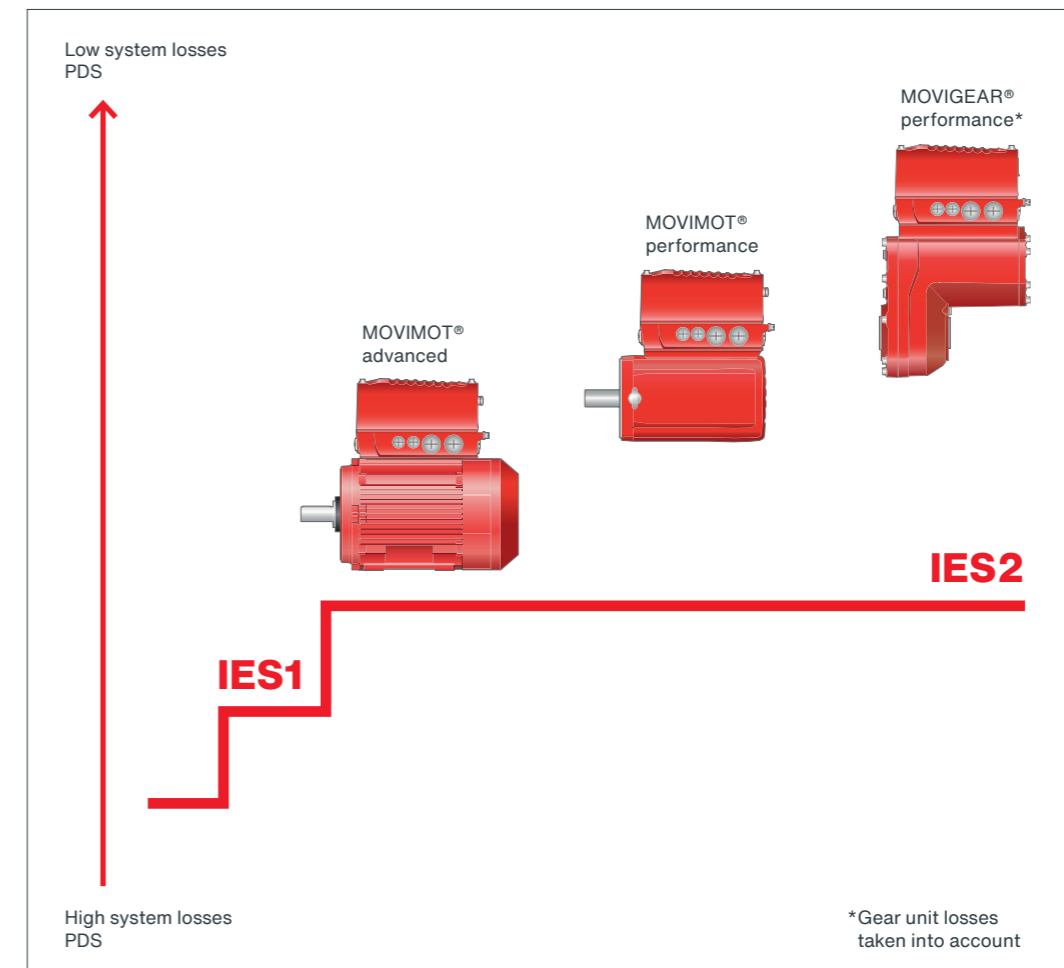
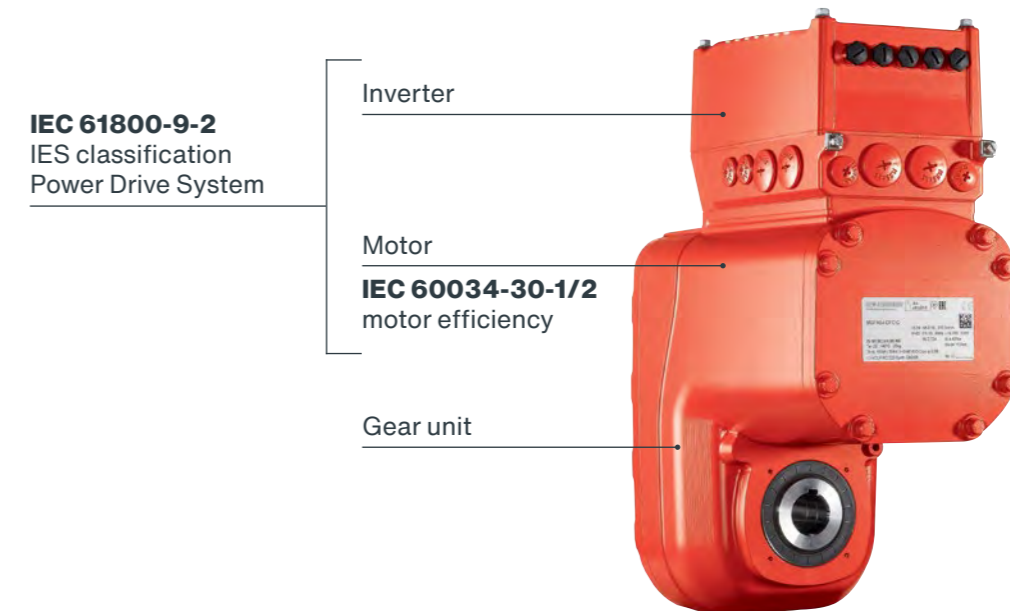
IE5 motor solutions. For any company that wants to go way beyond simply meeting the standards and take energy-saving to the next level, we highly recommend MOVIGEAR® performance. **After all, MOVIGEAR® keeps maximum losses a further 50% lower than is required by the standard.**



PDS system efficiency (to IEC 61800-9-2)

Energy consumption doesn't just depend on the motor – the inverter and the interplay between these two components also influence consumption levels. The IEC 61800-9-2 standard evaluates the energy efficiency of systems comprising motors and electronics (PDS = Power Drive Systems). Drives from the MOVI-C® modular automation

system already satisfy the requirements of the highest energy efficiency class, IES2. As all the components are perfectly coordinated, our systems even deliver lower maximum losses than those stipulated in the standard. For example, MOVIGEAR® keeps maximum losses 50% below the maximum value permitted by IES2.



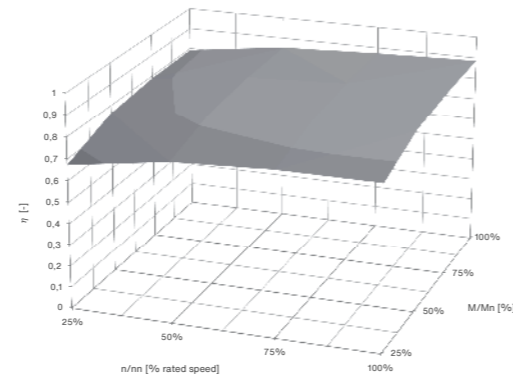
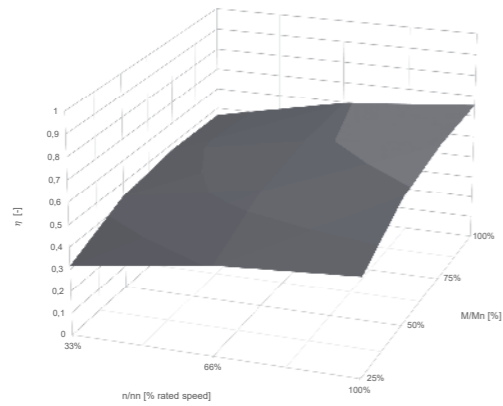
The drive system as a whole – just as in real life

Let's set engineering standards and standard definitions to one side for a moment and turn our attention to overall system efficiency. In reality, that is what determines a system's energy consumption. This overall efficiency is not solely determined by the inverter and motor – the gear unit and other elements of the drive system also have a part to play.

What's more, that applies to all the operating points of your system, and not just those defined in the standards. In these circumstances, the key to maximum energy efficiency does not just lie in the individual components themselves, but also in the exact way that all system components coordinate with each other.

**Here is an example:
The MOVIGEAR® performance drive unit**

Thanks to maximum integration, the system as a whole is much more than the sum of its parts. That is down to the perfect interplay between cutting-edge electronics and closed-loop control technology on the one hand, and an optimized high-efficiency motor and efficient helical gear unit on the other. All this culminates in system savings of – wait for it – up to 50% compared to the standard alternative.



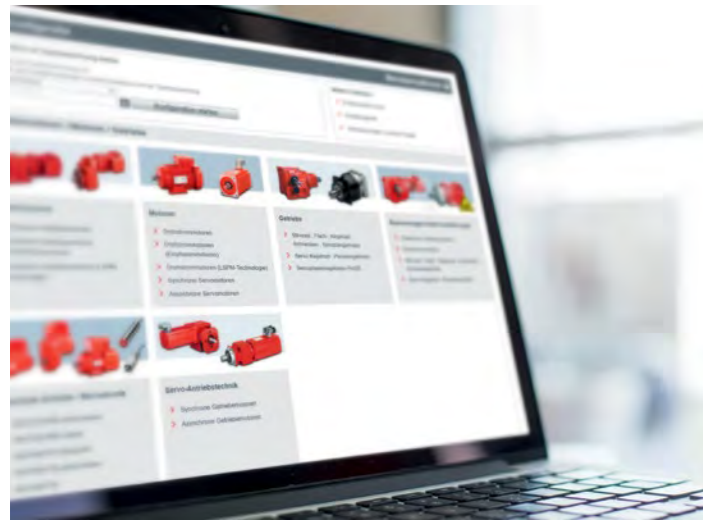
Drive system	Standard drive system FI 1.5 kW + 10 m cable + 1.5 kW helical-worm gearmotor (IE1)	Mechatronic drive system MOVIGEAR® MGF..4
Overall system efficiency	30 – 66%	68 – 88%
Savings		25 – 55%



The modular system for an easy system service life

Discover how MOVI-C® can lighten your workload throughout the entire system life cycle

From product selection to operation and maintenance



Product selection and purchase: Support right from the outset

You're in good hands with us, even before you've decided to opt for your first MOVI-C® components. We are there to help from the moment you make your first preselection, offering professional advice and providing intuitive planning tools both online and offline – wherever you are in the world.

- Professional advice – anytime and anywhere
- Intuitive online tools from Online Support to the SEW-EURODRIVE Workbench

Engineering and startup: Diversity that slots right into place

Welcome to MOVI-C®! All components are handled in exactly the same way, are very easy to replace and can be started up in next to no time. What's more, unrivaled design freedom is also on offer, with comprehensive configuration options for products and a modular concept for installation technology ensuring your solution is a perfect fit. By contrast, complexity is always reduced to a minimum.

- Standardized modular automation system for both centralized and decentralized use with the same functions and handling
- Variable integration and installation concept for unrivaled installation options, such as in the case of plug connectors
 - Variants
 - Connector positions
- Hybrid cable and hybrid connector
- Unrivaled range of options for tailor-made concepts
- Plug-and-produce – digital motor integration for startup times that are so short they're revolutionary

Besides delivering consistency in the portfolio itself, MOVI-C® also consistently eases your workload. For instance, digitalization goes hand in hand with smart replacement concepts. MOVI-C® also sets the benchmark when it comes to energy efficiency by exceeding all standard energy-saving guide-

lines and thus helping to cut electricity bills on a sustainable basis. All in all, in terms of maintenance, the benefits include lower costs, smaller spare parts inventories, shorter downtimes and less susceptibility to faults.

Simple maintenance

- Robust overall concept – less damage caused by improper handling
- Longer service and repair intervals thanks to special drive packages for extended durability and harsh environments
- Reduced spare parts inventory and reduction in drive variants due to simple component standardization
- Simple replacement concept for electronics
- Ergonomic drive replacement thanks to highly integrated, compact and lightweight drive systems
- Digital motor integration with the option of automatically checking whether the correct motor has been installed after replacement

Energy efficiency – sustainability that cuts costs

- Motor efficiency rating of IE3 to IE5
- MOVIGEAR® helps users leverage maximum energy-saving potential in genuine operations

Digital monitoring of drive technology

- MOVISUITE®
- Web server
- DriveRadar® solutions



Green logistics

MOVI-C® isn't just impressive on paper – it really works on a practical level, too
Hermes Fulfilment GmbH

The distribution center run by Hermes Fulfilment GmbH at its Haldensleben site is currently one of the largest in Europe. The demands on the processes, and therefore on the materials handling technology, are extremely high. Plant engineering company Transnorm System GmbH has

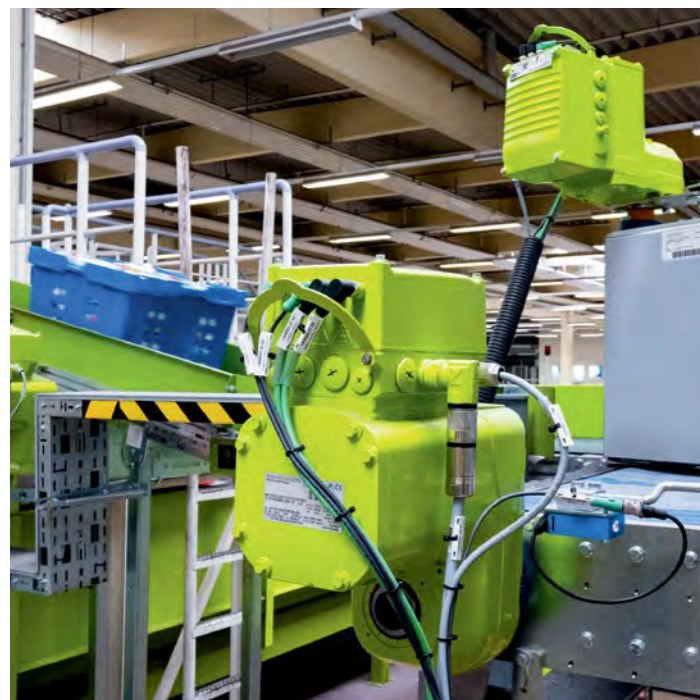
mastered the tasks of professionally planning and implementing systems that are tailored precisely to customer requirements. Naturally, this also places correspondingly high demands on the automation technology from SEW-EURODRIVE.

Customer requirements:

- Innovative and sustainable modernization
- Enhanced energy efficiency
- Improved performance and reliability
- Lower energy and maintenance costs
- Efficient bag handling
- Reduced spare parts inventory

Our solution:

- Increased energy efficiency due to the highest achievable motor efficiency (IE5 to IEC TS 60034-30-2)
- High overload capacity of up to 300%
- Low noise level (65 dB)
- Reduced number of drive variants
- Universal mounting position
- Wide speed setting range



Modernization with the help of MOVIGEAR® performance from the MOVI-C® modular automation system

MOVIGEAR® performance is our optimized end-to-end solution that boasts impressive system efficiency and quiet operation. The energy comparison measurements carried out on one of the conveyor lines (before and after conversion) confirmed the enormous potential for energy savings.

Would you like to know more about our MOVIGEAR® performance drive unit? Find out more here:
www.sew-eurodrive.de/en/movigear-performance



↓ **1710 kg/year**
smaller CO₂ footprint

↓ **34%**
energy saving on the conveyor line being measured

↓ **57%**
average energy saving per drive

↓ **50%**
noise reduction thanks to fan-free drives



What our customers have to say

Matthias Melahn, Group Leader of Process and Control Technology at Hermes Fulfilment:

“The materials handling technology that we use must satisfy high demands in terms of durability, performance and reliability in 24-hour operation. We chose MOVIGEAR® performance not only because of its technical characteristics – such as its compact design and on-board frequency inverter – but also because of its outstanding results when it comes to saving energy. I am completely satisfied with the collaboration and the outcome of the project.”

Sebastian Hartmann, Design Engineer at Transnorm (OEM)

“As a designer, the thing that impressed me most about MOVIGEAR® performance was the universal mounting position of the MOVIGEAR® drive. I don't have to think ahead about the mounting position. One of the customer benefits is the energy saving the new system achieves compared to the old one. Although the old system had three fewer drives, the new system consumes about a third less energy.”



Want to find out more? Further information about this reference project can be found here:
www.sew-eurodrive.de/reference-hermes-fulfilment

Further information can be found at:
www.sew-eurodrive.de/en/movi-c

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