SEW EURODRIVE

SAVING

Decentralized Installation Concepts with Mechatronic Drive Systems

Are you a system designer or operator and looking to improve cost transparency and structure in your production plant?

Have you considered equipping your plant with a decentralized installation concept but still have unanswered questions?

This brochure will give you an insight into the option of a “decentralized installation,” as well as your potential savings in costs and energy.

cen·tral·ized

General definition: formed about the center or around a superordinate place

In **centralized installation concepts,** the drive electronics for controlling individual machines or system modules are housed in control cabinets, and a PLC has overall control.

de·cen·tral·ized

General definition: distributed in different places, based around different places

In **decentralized installation concepts,** the components and functions are standardized and have a modular structure. The control intelligence is located in the drive technology or the module itself.

205
2F
203
2F
201
2G
203
2G

Up to 90% of follow-up costs that occur during operation are energy costs • The manufacturing and processing industries are two of the world's largest energy consumers. Around two-thirds of this energy is used for electrical drive engineering. It is estimated that up to 90% of the follow-up costs for electrical drive engineering – expenditures on production machines and plants, or transportation of the goods in-house – can be attributed to energy costs. This means that there is the potential for significant savings if energy costs can be lowered in these sectors.

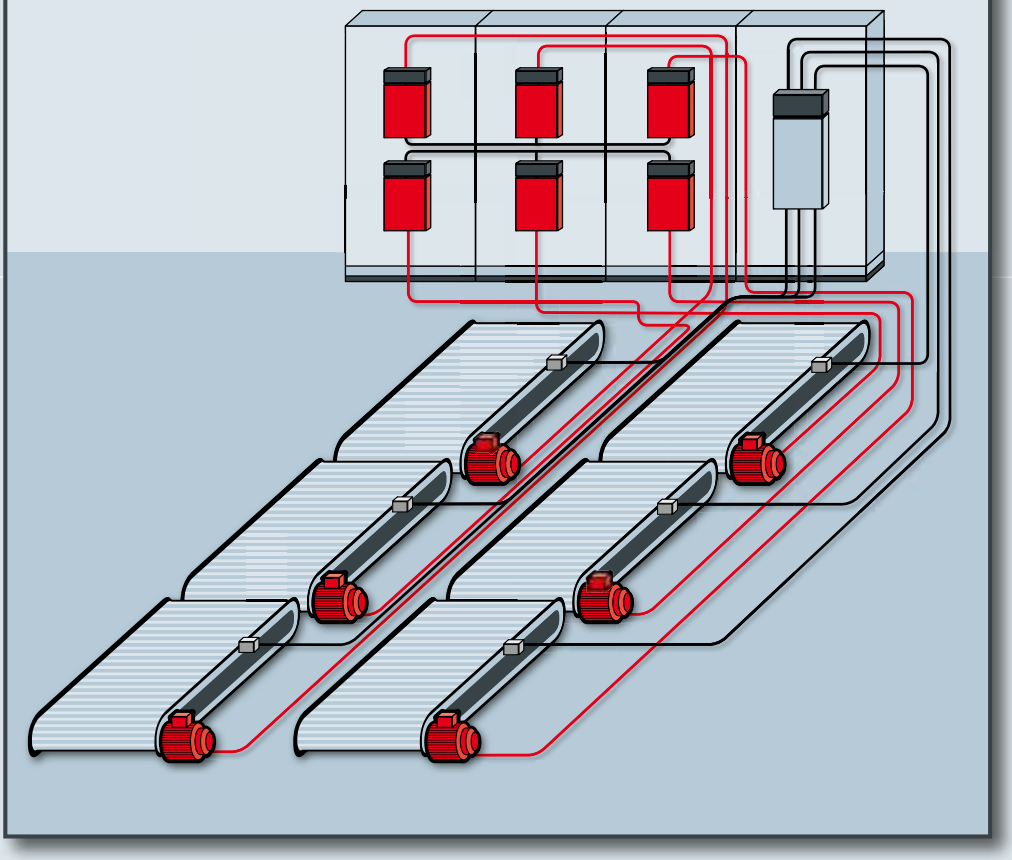
kWh
MIN
Drehstrom-

Use up to 50% less energy with mechatronic drive systems • By combining energy-efficient mechanical and electronic components in the development of new decentralized and compact drive systems, and implementing these solutions in decentralized installation concepts, SEW-EURODRIVE is achieving outstanding energy-saving results. Proof can be found in the great number of our “decentralized” applications used in the production industry every day, which reduce energy consumption up to 50%: In the food and beverage industry or in airport logistics, for example, downtime and maintenance costs are reduced, as well as the follow-up costs for conversion, expansion and reuse, not to mention the improved return on investment (ROI).

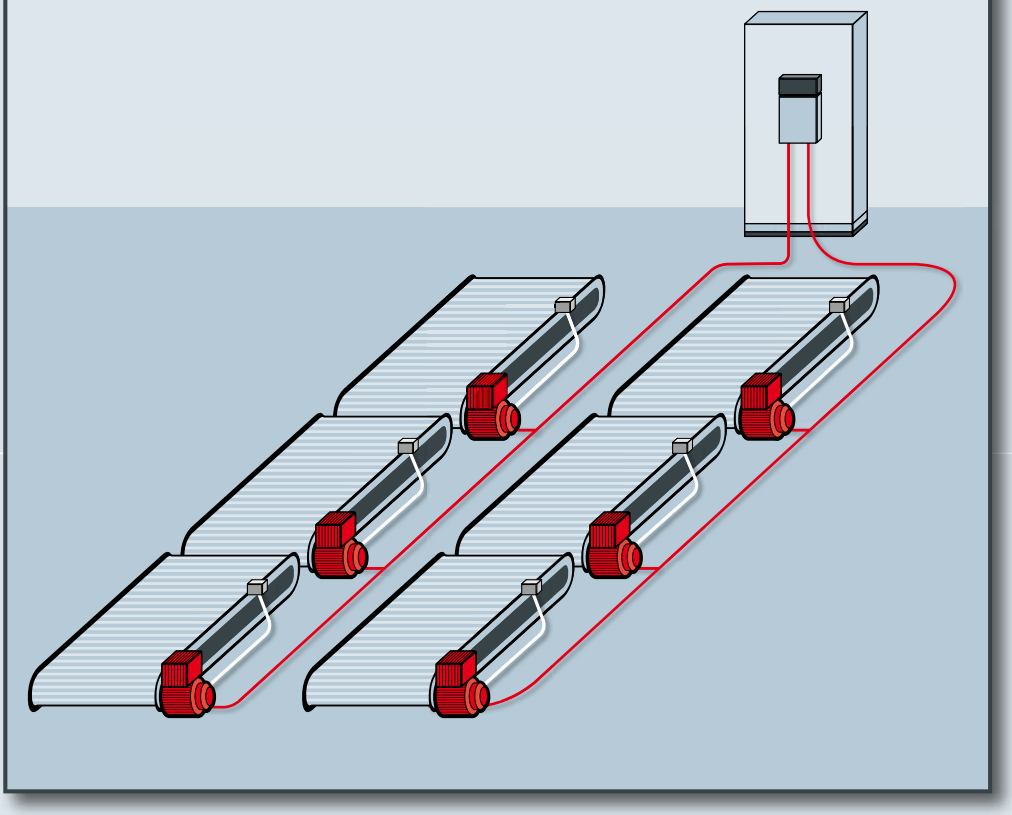
MIN

Up to 60% reduction in installation costs with a decentralized structure • Especially in extremely large production plants, decentralized installation concepts can cut costs considerably. In comparison to centralized solutions, less space is needed for control cabinets, and significantly less cabling work is required; the control units are already integrated into SEW-EURODRIVE's decentralized drive components. For example, this means that the MOVIGEAR® mechatronic drive systems or the DRC.. electronic motor only require **one** line for transmitting energy and information (using the SNI principle: Single Line Network Installation).

Centralized installation concept



Decentralized installation concept



Under which circumstances should a decentralized installation concept be considered?

SEW-EURODRIVE encourages system designers and operators who

– are planning a new production plant on a large site or with a modular structure, or

– are expanding an existing plant

to consider a decentralized installation concept and compare it with a classic centralized solution.

In addition to the basic initial costs, the following points should also be taken into account:

1. The modular, standardized and flexible structure of the drive engineering components and the system modules and segments
2. Reduction in planning and startup time
3. Cost-effective planning and operation

The illustrations show how the two concepts differ in terms of space, installation requirements, modularity, energy consumption, and so on.

In addition to the reduced costs for installation, startup and energy consumption mentioned above, decentralized solutions offer a greater degree of modularity and flexibility in the planning stages as well as during operation. Further benefits include long-term expansion options and optimal availability times, while the connection to higher-level communication or automation interfaces is guaranteed at all times. The standardized control software saves even more time.

ADVANTAGES FOR THE SYSTEM DESIGNER: Standardized drive components • Fewer design variants • Short implementation times • Short project duration • Less project planning • Multi-application of standard modules • Modular planning and design • Reliable offers and calculations **ADVANTAGES FOR THE SYSTEM OPERATOR:** Flexibility in the plant • Scaling flexibility • Minimal idling times • Minimal conversion times • High production flexibility • Short response times • Reduced energy costs • Reduced operating costs • Reuse of modules • Simple exchange of modules **ADVANTAGES FOR BOTH:** Reduced system complexity • Standardized interfaces • Standardized connection technology • Reduced costs through reduced number of variants • Lower storage costs • Flexible system configuration and scaling • Smaller control cabinet • Less cabling • Less work for main control • Platform-independent communication and control • Startup of individual modules • Startup of sub-areas • Reduced startup times • Local limitation of failures • High system availability • Greater TRANSPARENCY and EFFICIENCY

Routine Production with Decentralized Installation Concepts

Decentralized systems are based on the principle of modular and standardized design, whereby the components and functions are connected through defined interfaces, and communicate efficiently with each other. This creates function modules in the system or machine. Examples of modules include a conveyor belt, a corner transfer unit, or even a lift or palletizer. Drive technology that does not require control cabinets is used; it “sits” directly in the module.

55
60
5
10
1/10SEC

Save time
Increase availability

Time is money, so it is not surprising that time plays an important role when a production plant is in operation. Decentralized drive and automation concepts have a modular design and the standardized components and functions offer a number of attractive advantages, for example:

– Reduced planning and installation times
– Shorter startup times
– Less idling time and downtime
– Quick conversions, modifications and expansions
– Higher system availability

If a system designer or operator also considers the energy-saving potential of energy-efficient, mechatronic drive systems, the cost-effectiveness of decentralized installation concepts is even clearer.

Cost-effective production

Whether during the planning phase or when production operations are running, the cost-effectiveness of a system is often only measured against the investment costs, which are ideally kept very low. Yet increasing energy costs show well that the life cycle costs and the total cost of ownership (TCO) cannot be ignored.

What better reason to give decentralized installation concepts a chance at optimizing large production plants which will continue to operate and expand over the coming years? SEW-EURODRIVE is convinced: If a decentralized installation is effectively planned and implemented using the proper modern and energy-efficient drive technology, the benefits of the investment are felt far into the future. Operating costs are reduced in the long run, while energy and maintenance costs are optimized; consequently, the overall production costs become increasingly profitable. As a result, decentralized installation concepts generate an attractive return on investment (ROI) for system designers and operators.

1

2

3

Decentralized drive systems with added value

For economical, decentralized installations, SEW-EURODRIVE offers a wide range of components that do not require control cabinets as part of the “Decentralized Drive Systems” modular unit. All components meet the three most important criteria for use in automation applications: They are modular, flexible and economical.

1

For example, MOVIMOT®, the gearmotor with an integrated frequency inverter, has been successfully integrated into numerous applications for decades, and communicates with all common bus systems using standardized fieldbus interfaces..

2

NEW: MOVIGEAR® mechatronic drive systems and the DRC.. electronic motor. Both fulfill the requirements for motor efficiency class IE4 (Super Premium Efficiency), both can communicate using the Single Line Network Installation (SNI), for example, and both can save up to 50% of energy costs when implemented as a drive system.

MOVIGEAR® combines motor, gear unit and electronics in a single compact drive system.

3

The DRC.. electronic motor is more flexible in terms of the gear unit and allows direct mounting on all gear units of the SEW-EURODRIVE modular system.

19407211 / 0712

SEW-EURODRIVE is right there for you:

Argentina
Tel. +54 3327 4572-84
Fax +54 3327 4572-21
sewar@sew-eurodrive.com.ar

Australia
Tel. +61 3 9933-1000
Fax +61 3 9933-1003
enquires@sew-eurodrive.com.au

Austria
Tel. +43 1 617 55 00-0
Fax +43 1 617 55 00-30
sew@sew-eurodrive.at

Belarus
Tel. +375 17 298 47 56
Fax +375 17 298 47 54
sales@sew.by

Belgium
Tel. +32 16 386-311
Fax +32 16 386-336
info@sew-eurodrive.be

Brazil
Tel. +55 19 3835-8000
sew@sew.com.br

Canada
Tel. +1 905 791-1553
Fax +1 905 791-2999
marketing@sew-eurodrive.ca

Chile
Tel. +56 2 2757 7000
Fax +56 2 2757 7001
ventas@sew-eurodrive.cl

China
Tel. +86 22 25322612
Fax +86 22 25323273
info@sew-eurodrive.cn

Colombia
Tel. +57 1 54750-50
Fax +57 1 54750-44
sew@sew-eurodrive.com.co

Czech Republic
Tel. +420 255 709 601
Fax +420 235 350 613
sew@sew-eurodrive.cz

Denmark
Tel. +45 43 9585-00
Fax +45 43 9585-09
sew@sew-eurodrive.dk

Finland
Tel. +358 201 589-300
Fax +358 3 7806-211
sew@sew.fi

France
Tel. +33 3 88 73 67 00
Fax +33 3 88 73 66 00
sew@usocome.com

Great Britain
Tel. +44 1924 893-855
Fax +44 1924 893-702
info@sew-eurodrive.co.uk

Hong Kong
Tel. +852 36902200
Fax +852 36902211
contact@sew-eurodrive.hk

Hungary
Tel. +36 1 437 06-58
Fax +36 1 437 06-50
office@sew-eurodrive.hu

India
Tel. +91 265 3045200
Fax +91 265 3045300
marketing@seweurodriveindia.com

Italy
Tel. +39 02 96 9801
Fax +39 02 96 980 999
sewit@sew-eurodrive.it

Ivory Coast
Tel. +225 21 21 81 05
Fax +225 21 25 30 47
info@sew-eurodrive.ci

Japan
Tel. +81 538 373811
Fax +81 538 373814
sewjapan@sew-eurodrive.co.jp

Kazakhstan
Tel. +7 727 238 1404
Fax +7 727 243 2696
sew@sew-eurodrive.kz

Malaysia
Tel. +60 7 3549409
Fax +60 7 3541404
sales@sew-eurodrive.com.my

Mexico
Tel. +52 442 1030-300
Fax +52 442 1030-301
scmexico@seweurodrive.com.mx

Mongolia
Tel. +976 77109997
Fax +976 77109997
sew@sew-eurodrive.mn

Morocco
Tel. +212 523 32 27 80/81
Fax +212 523 32 27 89
sew@sew-eurodrive.ma

Netherlands
Tel. +31 10 4463-700
Fax +31 10 4155-552
info@sew-eurodrive.nl

New Zealand
Tel. +64 9 2745627
Fax +64 9 2740165
sales@sew-eurodrive.co.nz

Norway
Tel. +47 69 241-020
Fax +47 69 241-040
sew@sew-eurodrive.no

Paraguay
Tel. +595 991 519695
Fax +595 21 3285539
sewpy@sew-eurodrive.com.py

Peru
Tel. +51 1 3495280
Fax +51 1 3493002
sewperu@sew-eurodrive.com.pe

Poland
Tel. +48 42 676 53 00
Fax +48 42 676 53 49
sew@sew-eurodrive.pl

Portugal
Tel. +351 231 20 9670
Fax +351 231 20 3685
infosew@sew-eurodrive.pt

Russia
Tel. +7 812 3332522
Fax +7 812 3332523
sew@sew-eurodrive.ru

Singapore
Tel. +65 68621701
Fax +65 68612827
sewsingapore@sew-eurodrive.com

Slovakia
Tel. +421 2 33595 202
Fax +421 2 33595 200
sew@sew-eurodrive.sk

South Africa
Tel. +27 11 248 7000
Fax +27 11 248 7289
info@sew.co.za

South Korea
Tel. +82 31 492-8051
Fax +82 31 492-8056
master.korea@sew-eurodrive.com

Spain
Tel. +34 94 4318470
Fax +34 94 4318471
sew.spain@sew-eurodrive.es

Sweden
Tel. +46 36 3442 00
Fax +46 36 3442 80
info@sew-eurodrive.se

Switzerland
Tel. +41 61 41717-17
Fax +41 61 41717-00
info@imhof-sew.ch

Tanzania
Tel. +255 22 277 5780
Fax +255 22 277 5788
uroos@sew.co.tz

Thailand
Tel. +66 38 454281
Fax +66 38 454288
sewthailand@sew-eurodrive.com

Turkey
Tel. +90 262 999 1000-04
Fax +90 262 999 1009
sew@sew-eurodrive.com.tr

Ukraine
Tel. +380 56 370 3211
Fax +380 56 372 2078
sew@sew-eurodrive.ua

Uruguay
Tel. +598 2 2118189
Fax +598 2 2118190
sewuy@sew-eurodrive.com.uy

USA
Tel. +1 864 439-7537
Fax +1 864 439-7830
cslyman@seweurodrive.com

Venezuela
Tel. +58 241 832-9804
Fax +58 241 838-6275
ventas@sew-eurodrive.com.ve

How we're driving the world

SEW-EURODRIVE
Driving the world

Fast. Up-to-date. Online: www.driveworld.de/en

SEW-EURODRIVE GmbH & Co KG
P.O.Box 30 23
76642 Bruchsal/Germany
Tel. +49 7251 75-0
Fax +49 7251 75-1970
sew@sew-eurodrive.com

➟ www.sew-eurodrive.com

ClimatePartner
climate neutral
print product