



**SIEMENS**



**Retrofit for  
Integrated Drive Systems**

Extend the lifetime of your machines and plants

Industry Services

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# Greater efficiency, improved reliability, higher productivity

Integrated Drives Systems are at the heart of your machines and plants. They need to run both safely and reliably – often for decades and under harsh conditions. As a result they are frequently subject to extreme wear and tear, and these factors increase the risk of unscheduled downtime over the course of time. Retrofit for Integrated Drive Systems can avert these risks, and provide significant support for maintaining reliable plant operation over the long term. Retrofits reliably reduce the maintenance costs associated with an advanced life cycle and further increase plant availability.

As with new systems, retrofit solutions for Integrated Drive Systems take the entire drive train into account. This makes it possible to identify and utilize additional efficiency and energy-saving potential – for example, by using energy-efficient components and integrating them intelligently into the automation environment with the TIA Portal, or by implementing Remote Services and continuous Condition Monitoring.

Retrofits are a key factor in long-term investment security, and they are also a valuable investment in their own right. Thanks to the potential savings of energy, your investment in a retrofit usually pays off in just a few months, and quickly lowers operating costs over the long term by making additional potentials available.

Siemens offers an extensive retrofit program for Siemens products as well as other manufacturers, from duplicating, upgrading, and replacing individual components to implementing complex retrofit projects.

## Retrofit solutions from Siemens offer clear benefits

- Higher productivity thanks to shorter standstill and downtimes as well as less maintenance work
- Supply of spare parts is ensured for the long term, plus simplified spare-part management
- Comprehensive upgrades to the latest standards, including Totally Integrated Automation, communication, and diagnosis
- Improved energy efficiency as a result of an integrated approach



## With Retrofit for Integrated Drive Systems, you benefit from:

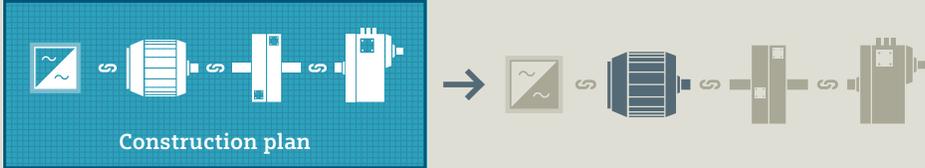


- Increased efficiency
- Better availability of spare parts
- Increased failure tolerance
- Extended diagnostic capabilities
- Seamless integration into the automation environment



- Lower energy consumption
- Less maintenance work and less frequent maintenance calls
- Less wear and tear

# Option 1: Duplicating the motor 1:1



**Construction plan**

Thanks to its 150 years of expertise, Siemens has access to original design plans worldwide.

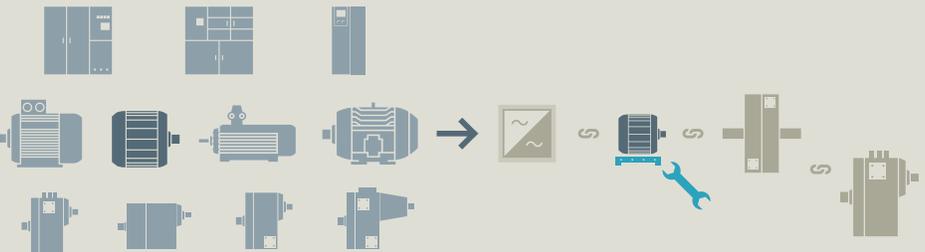
As a result, the new motor is an exact fit and allows a one-to-one replacement of the old motor.

## Ideal in particular for long-standing and proven configurations

When drive trains have been in service for a very long time, a retrofit that involves duplicating the original motor 1:1 is a good option in specific situations. In these cases, the original parts are replaced with identical new components.

For the past 150 years, Siemens has been manufacturing drive train components in factories around the world and has an enormous inventory of original design plans on hand. As a result, many components can be duplicated 1:1. This means that proven drive train solutions that have been reliable for years can remain essentially unchanged, and the expensive requalification of a new machine that would otherwise be required can usually be eliminated.

# Option 2: Replacement with a standard product



A suitable motor, for example, is selected from Siemens' extensive product range.

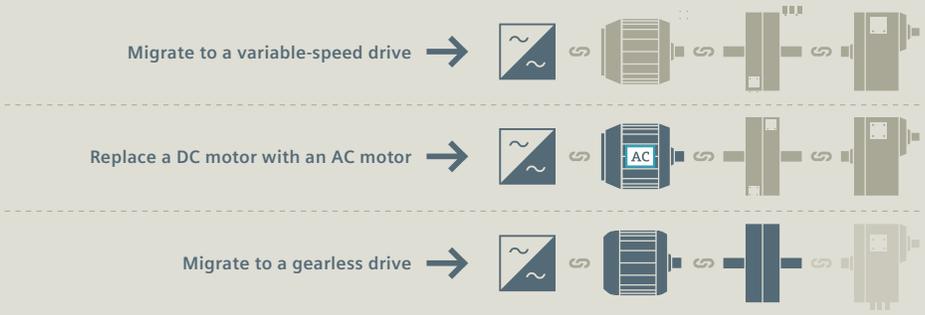
Any customization work that may be needed can be carried out in the factory or on site.

## The economical solution for greater efficiency

In many cases, it is possible to replace the component to be exchanged with a standard product from Siemens' extensive product range. If additional customization is needed, it can be done either right in the factory or on site when the new component is installed, depending on the scope of the necessary work.

In terms of investment costs, replacement with a standard product is usually the best option, and it also offers the opportunity to benefit from greater energy efficiency and reliability of a standard product from the most recent series.

# Option 3: Upgrading to the latest technology



Migrate to a variable-speed drive →

Replace a DC motor with an AC motor →

Migrate to a gearless drive →

## Cutting-edge technology helps sustainably lower operating costs

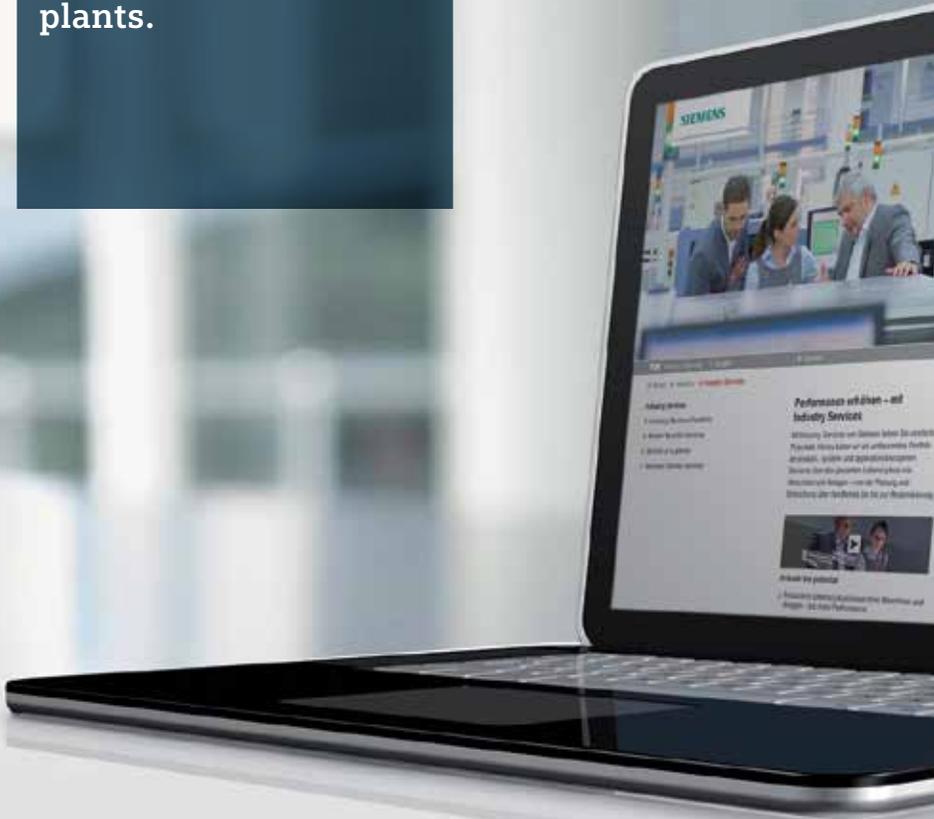
From a technical point of view and with operating costs in mind, upgrading to the latest technology is the ideal solution. A retrofit is the best time to replace older technologies with cutting-edge motors and drives from Siemens' current product range. Retrofitting variable-speed drives with a frequency converter for previously installed motors, replacing DC motors with contemporary AC motors and migrating to gearless drives – these options all sustainably lower operating costs by cutting energy consumption, and also help to optimize your processes.

A simple example shows how upgrading to the latest technology can save energy: In pump systems without a variable-speed drive, the flow is regulated mechanically – with a valve, for instance. However, the motor runs on constant power. After retrofitting the system with a frequency converter, the motor can regulate the flow itself, controlled by sensors. This approach saves 20% to 70% of the energy required to operate the pump.

Find out more:

[www.usa.siemens.com/services](http://www.usa.siemens.com/services)

Experience Retrofit for Integrated Drive Systems as part of the services for Integrated Drive Systems and extend the lifetime of your machines and plants.



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Siemens Industry, Inc.  
3333 Old Milton Parkway  
Alpharetta, GA 30005

1-800-333-7421  
[info.us@siemens.com](mailto:info.us@siemens.com)