

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Svendborg Brakes

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

Ameridrives Couplings

Inertia Dynamics

Matrix International

Huco Dynatork

Bibby Turboflex

Twiflex Limited

Lamiflex Couplings

Kilian Manufacturing

Guardian Couplings

Ameridrives Power
Transmission

Bauer Electro-Mechanical Application Solutions Provide Efficient Drivetrain Integration



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 **Bauer**[®]
Gear Motor

An Altra Industrial Motion Company

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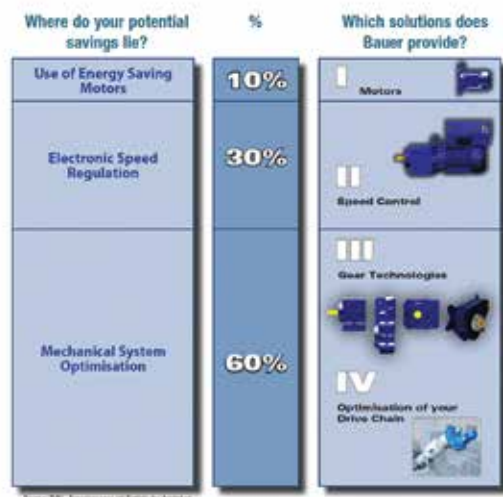
Depending on the industry, environment and requirements of any given application, there are many different methods of transferring power from main supply to machine. But no matter what the layout of the drivetrain, there will always be some solutions that offer smoother integration and better efficiency than others. Bauer supplies electro-mechanical application solutions that guarantee every component is hand-picked for the application, and integrated as efficiently as possible.

Energy efficiency is a hot topic across every industry at the moment, but without fully understanding all the components within the drivetrain, only a fraction of the potential savings can be realised. Throughout the drivetrain the potential energy savings are distributed via the ZVEI model:

- 10% via improved efficiency of the motor
- 30% via electronic speed regulation
- 60% via optimisation of the mechanical system

This highlights the fact that, while the current focus on energy efficient motors is important, it's even more important that engineers don't lose sight of the other areas where improvements can be made.

Bauer supplies electro-mechanical application solutions which are committed to delivering the best solution possible for any given application; by maximising the savings potential across each of the three fields listed above. This means long-term reliability, low maintenance costs and the best energy efficiency possible. Bauer's approach to optimisation is to adapt and simplify every aspect of the drivetrain — ensuring that it integrates seamlessly with the machine.



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Motors - 10% of potential saving

Recent technological advances in motor design have allowed manufacturers to deliver radical improvements in energy efficiency. Coupled with the recent IE2 and IE3 regulation — and the future IE4 regulations — this means that most applications are already benefitting from improved electrical efficiency. In fact, a recent comparison test of a standard IE2 asynchronous motor and a Bauer IE4 super premium efficiency motor showed energy savings of over 40% are possible.

Not only does Bauer already conform to IE2 and IE3 classification, it is also leading the way in new IE4 technology. All of the company's motor competencies — from design to manufacture — are maintained in-house, which gives it autonomy over the quality of the product that goes into its drivetrain packages. It offers a full complement of products for all the energy classes, which means that there is a wealth of choice for any application.

Speed Control - 30% of potential saving

Using a speed control device to monitor the required output of the motor and regulate its energy use accordingly is well-known, quick and simple way of increasing the efficiency of a system. Depending on the requirements of the application, there are many different control and monitoring concepts which may offer the best combination of cost and efficiency. Bauer has developed relationships with many of the leading manufacturers of speed control solutions to work hand-in-hand with its products to maximise the efficiency of its systems.

Mechanical Optimisation - 60% of potential saving

While motor efficiency and speed control currently enjoy the majority of media coverage, the fact is that mechanical optimisation accounts for the majority of potential savings in most existing drivetrain solutions. In fact, the opportunities are so vast that Bauer has split it into two further sub-categories: Gear Technologies and Drivetrain Optimisation.

Bauer has been manufacturing Gear Technologies since 1927, throughout these nearly 90 years it has always strived to offer the most efficient and reliable solutions possible. To best service this aim it has developed a standard, modular gear program as well as a custom design and manufacturing service.

Modular models include the helical BG Series, parallel shaft BF Series, bevel BK Series and worm drive BS Series; each series includes low torque products (<100NM) to avoid unnecessary oversizing. The range also includes application specific models — including the world's first modular stainless steel IE4 permanent magnetic synchronous geared motor for the food and beverage industry complimenting the already successful Aseptic™ range — offering unique features and capabilities designed for the special requirements of differing environments.

Each product is specified by application experts, with the help of Bauer's technical centre, to optimise for the specific application in terms of energy-efficiency, smoothness, noise, impact-resistance and other attributes. Where custom solutions are required, Bauer is able to provide the shortest time to market possible thanks to continued investment in its rapid prototyping capabilities.

Drivetrain optimisation is the last piece of the puzzle, but no less important than the considerations that have come before it. Once each aspect of the drivetrain has been specified, it must then be integrated into the machine with as much efficiency as possible. This requires an in-depth understanding of the drivetrain as well as the specific demands of a given industry, which is why Bauer has a team of application experts who specialise in different industries.

Simple installation solutions, such as gearing that takes over the bearing functions, thus reducing the number of components, can offer improvements in efficiency that are equivalent to the step-up between an IE1 and an IE4 motor in the same drivetrain. As part of Altra Industrial Motion, Bauer is also able to work closely with the Altra Coupling division, which includes brands such as Bibby, Huco and Ameridrives, to specify coupling solutions which integrate the drivetrain with minimal energy loss.

Thanks to its completely modular design, Bauer's standard product range offers thousands of potential drivetrain packages while, for more specialized applications, the Bauer Specialist Serial Demand service can build a completely custom design which is integrated into the machine from the ground up. Its engineers work to maximise the potential energy savings at every stage of specification and installation to deliver the best possible solution for each individual application.



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About Altra Industrial Motion

Altra Industrial Motion (NASDAQ:AIMC) is a leading multi-national designer, producer and marketer of a wide range of electromechanical power transmission products. The company brings together strong brands covering over 40 product lines with production facilities in nine countries.

Altra's leading brands include Boston Gear, Warner Electric, TB Wood's, Formsprag Clutch, Wichita Clutch, Industrial Clutch, Ameridrives Couplings, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Bauer Gear Motor, Svendborg Brakes, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Guardian Couplings, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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