

**SIEMENS**  
*Ingenuity for life*

**Safe. Efficient. Flexible.**

Siemens ELFA® drive system

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#### Lean back and relax - with Siemens as your reliable partner

Growing mobility demands and increasing transport of goods are major drivers of today's collapsing traffic situation. Health risks arise from our daily exposure to exhaust and noise emissions. Increasingly governments see the OEMs to take on the responsibility for quieter and more compatible transport solutions. In order to comply with stricter emissions and safety regulations, vehicle systems tend to become more and more complex.

Nowadays the OEM as well as its suppliers need to have a well-founded understanding of the component and subsystem interrelations. To manage these challenges in rapidly changing times, OEMs must have a reliable partner with a strong portfolio at their side.

Siemens CV with its innovative electrical drive system ELFA, can play a key role, when it comes to managing these challenges. With the ELFA system from Siemens, OEMs can choose their specific drive train configuration. Operators and logistic providers will be able to offer profitable, efficient as well as emission-free transport with buses and trucks using the ELFA system.

With its ELFA electrical drive technology and complete charging solutions, Siemens is paving the way for a sustainable future in the field of urban mobility.

#### Electromobility in the blood

To date, Siemens has sold more than 12,000 ELFA drive systems and works with approx. 50 vehicle manufacturers globally – from Paris to Moscow to Shanghai and L.A. Several thousand buses, relying on the ELFA drive system, serve on the streets of megacities, in emission sensitive areas or on demanding routes. Every system offers flexible adaptability to local environments, resulting in high availability and low maintenance costs of the fleets.

Requirements are changing, one constant remains – Siemens ELFA



Siemens ELFA platform components enable limitless vehicle design.

# Safe. Efficient. Flexible. – There are good reasons to opt for Siemens ELFA system.

## **Safe.**

Compiled of reliable and easy-to-integrate components, Siemens ELFA system and software are developed according to the latest automotive safety standards.

The technical experts from Siemens will give their best support to the customer in order to get their ELFA drive system running, operating with safety at fore-front and keep it running over the vehicle's life.

A long track records proves Siemens experience in various vehicle categories and demanding topographies. A good reason for the customer to feel relaxed and safe while working with Siemens and its strong ELFA portfolio.

## **Efficient.**

Development of Siemens' robust permanent magnet motors and generators is continuously driven with the aim of achieving maximum efficiency. With the proven direct drive ELFA system inside, up to 90% of energy recovery in recuperation mode is possible. This means for the vehicle design less energy storage required for a given route or getting more mileage out of existing kilowatt hours.

Efficient and solution-oriented working mode of Siemens project teams ensure a smooth project handling, in order to meet the customer's milestones.

## **Flexible.**

The inherent modularity of the ELFA system offers a high level of flexibility in vehicle design to the customer. With its broad PEM motor portfolio, Siemens delivers the best fit between requirement and performance, thus ensuring most advantageous total cost of ownership for the operator.

With ELFA not just the hardware is flexible, but also our dedicated people. The Siemens ELFA technical team will remain in continuous dialogue with the customer, upcoming adaptations will be handled with high attention. When challenged with a late change request or extra short project lead times, Siemens skilled team of engineers and software experts demonstrate a high degree of flexibility and an open mindset to find the best solution for the customer.



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